VOL. 86 NO. 10

The Superintendent And
Quality Control
(Page 37)

textile bulletin

OCTOBER • 1960

IN THIS ISSUE

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BPA NBP

What is the meaning of this new Fortrel?

POLYESTER

Because we believe that the American and world markets have far to go before they are as well-dressed and attractively-housed as new fibers and fabrics can make them . . . Because we believe that there is room—and *need*—for new fibers, Celanese now brings to market the new polyester, FORTREL.

WHY A POLYESTER? Continuing long range market analysis convinced us some time ago that the polyester group—strong, dimensionally stable, durable, tremendously resilient, almost perfect as a blending fiber—has the greatest utility and broadest application of any of the new man-mades.

WHY FORTREL? Polyester fiber, invented in England, was developed by Europe's largest chemical manufacturer, Imperial Chemical Industries. With their vast technical and engineering resources, they have built up a leading world position in polyester chemical and fiber production. So, when opportunity arose to form a joint Celanese-I.C.I. company to produce polyester in this country, we welcomed it. We felt that the combination of I.C.I. manufacturing and research skill and our knowledge of the American market could create important new values for the American textile industry.

HOW WILL CELANESE MERCHANDISE FORTREL? The key to Fortrel merchandising will be Quality Control, based chiefly on a licensing program at the converter level. Testing will be in terms of intended end uses. Identification will be energetically policed. (Details of this program are available upon request.) In addition, a massive advertising, promotion and publicity program has been designed to build a national brand name and consumer franchise.

THE OPPORTUNITY. We are confident that the entrance of Celanese into the polyester field with new fabric developments, new marketing ideas, new promotional approaches, constitutes a rare opportunity for aggressive, imaginative merchants at all levels of the trade. For more detailed information, contact Celanese Fibers Company, 180 Madison Avenue, N. Y. 16, (a division of Celanese Corporation of America).

*Fortrel is a trademark of Fiber Industries, Inc.

Fortrel*

Celanese® NEW POLYESTER FIBER

the fiber that keeps its promise

Application of 1-color lacquer ring inside 3°30' cone nose

Sonoco has the answer to yarn identification!

Sonoco was among the first, years ago, to recognize an urgent industry need for economical, sure-fire ways to identify packaged yarn. This led Sonoco to one of its most important developments—the *first* lacquer-tipped cone. Not only did this provide a quick means for identification, it also produced a smooth, hard nose for better yarn processing.

Today, Sonoco uses lacquers, coatings and dyes in a number of methods for marking cones, tubes, cores, spools and bobbins. For example, the 3°30' cone-tipping machine pictured above applies a 1-color lacquer ring on the *inside* of the cone nose. This economical method is popular for yarns which do not require a super-smooth cone nose to prevent snagging in take-off.

The unique methods for yarn identification are typical of the advancements made by a fully integrated company with 60 years' experience in creating and producing all types of paper textile carriers. *Only Sonoco,* in its field, provides the necessary knowledge, skill and capacities to meet the ever-changing techniques of the textile industry. *Let Sonoco experience help you!*

SONOCO

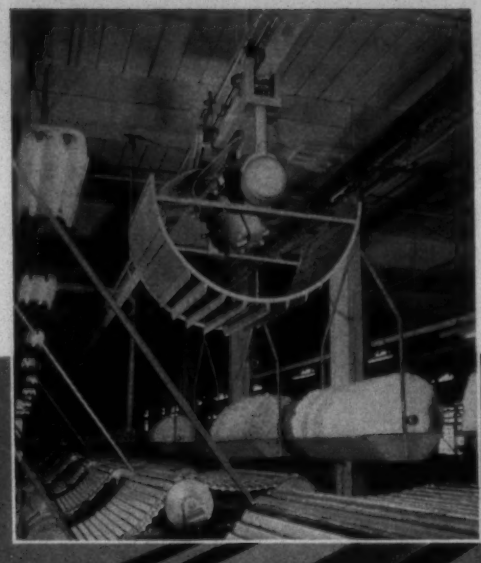
Products for Textiles

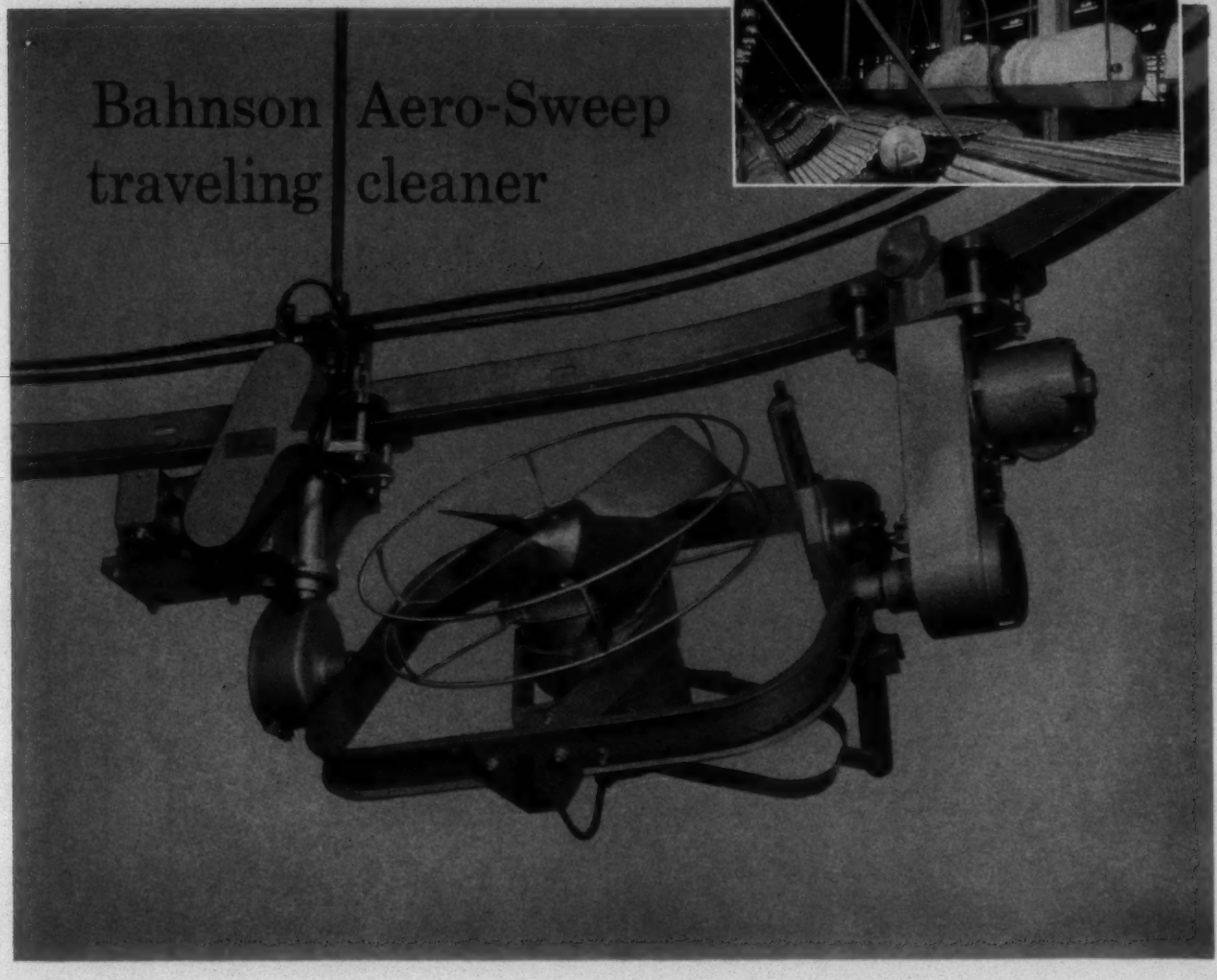
sonoco
PAPER PRODUCTS

SONOCO PRODUCTS COMPANY, HARTSVILLE, SOUTH CAROLINA • Mystic, Conn. • Akron, Ind. • Lowell, Mass. • Holyoke, Mass. • Phillipsburg, N. J. • Longview, Texas • Philadelphia, Pa. • La Puente, Calif. • Fremont, Calif. • Atlanta, Ga. • Richmond, Va. • Brantford, Ontario • Granby, Quebec • Mexico City

1463

To the mill man who wants maximum overhead cleaning





You get maximum overhead cleaning with the Aero-Sweep Cleaner because:

- it cleans the objective more thoroughly with head-on air blasts at ½ the distance of other cleaners.
- it cleans all objects throughout cleaning cycle at predetermined frequency.
- only Aero-Sweep has an exclusive patented indexing feature which sets the cleaning pattern for any area, prevents lint accumulation on all surfaces.

You clean your mill at less cost with Aero-Sweep because:

- one Aero-Sweep Cleaner cleans up to three times the area covered by other cleaners.
- it ends manual blow-down by removing lint from ceilings, walls, overhead equipment.
- it minimizes slubs and gouts, improves quality of product.

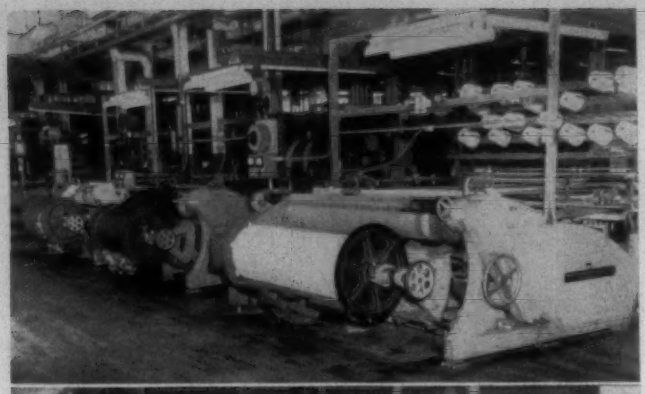
For details, see **free illustrated** Bulletin 21A. Clip coupon to letterhead and mail today.

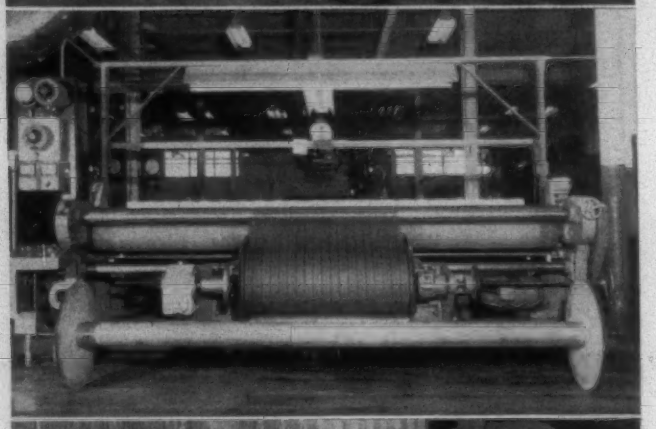
Name_____

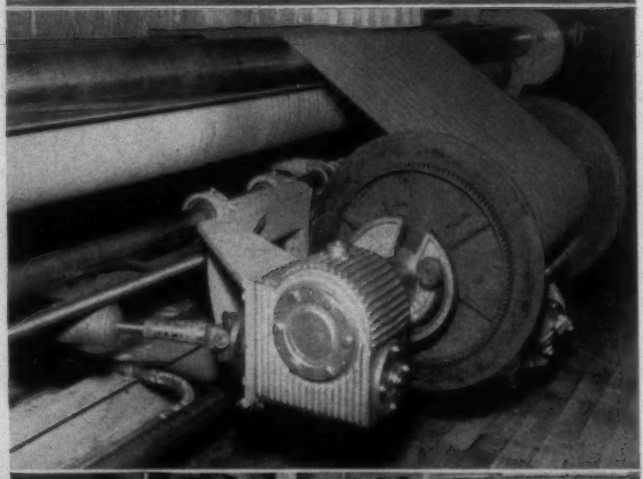
Bahnson

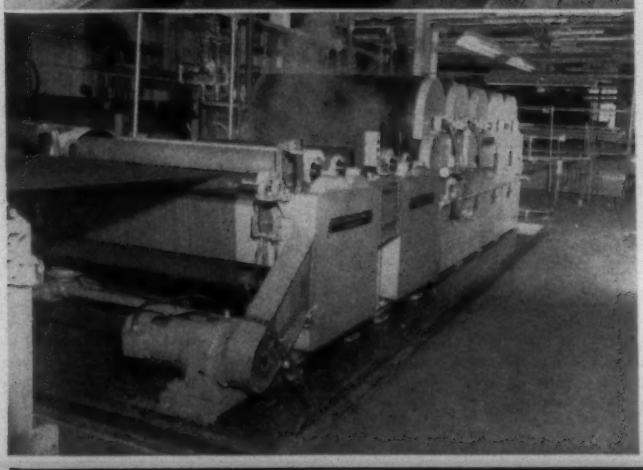
AIR-O-MATION

THE BAHNSON COMPANY • WINSTON-SALEM, N. C.









THE COCKER GH SLASHER VERSATILE EFFICIENT

Shown here are several views of part of a Cocker 9 cylinder GH Slasher installation at Swift Manufacturing Company, Columbus, Ga.—one of America's most versatile mills. These slashers operate on Acetate, Rayon, Nylon, Cotton and blends—stripes, solid colors, as well as greige goods.

The second picture demonstrates the extreme flexibility of the Cocker GH Slasher—accommodating beams from 36 inches to the 128 inch beam shown in front of the machine—with no projecting spindles. Note also, the convenient control panel.

Shown clearly in the third picture is the revolutionary Cocker Torque Tube Drive* which eliminates troublesome belts, chains, sprockets, etc. This greatly reduces maintenance and simplifies changing beam widths.

The lower picture shows the cylinder section and two Model DA Size Boxes.

Due to especially heavy warp construction, maximum speeds on this particular installation are approximately 100 yards per minute. In other mills, Cocker GH Slashers are operating at speeds up to 184 yards per minute on lighter constructions.

We believe that the new Cocker Model GH Slasher is the most efficient and versatile slasher in the World. Let us give you full information.

*Pat. Pending

COCKER MACHINE & FOUNDRY CO.

IN CANADA:
Contact W. S. Clark
Montreal, Canada
Oxford 7-2242

IN MEXICO:
Ing. J. Via, Jr.
I. La Catolica 45-911
Mexico, D. F.

PLANT & OFFICES
at Ranlo, N. C.
MAILING ADDRESS:
Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

gdc dyes for synthetics... ready reference dye application chart

developed to fulfill individual fiber requirements

DYE	TYPE	FIBERS†																	
		Acetate	Acrilan[1]	Acrilan 16[1]	Arnel[2]	Corval[3]	Creslan[4]	Dacron 54[5]	Dacron 64[5]	Darvan[2]	Dynel[6]	Kodel[7]	Nylon	Orlon[5]	Topel[3]	Verel[7]	Vycron[8]	Zefran[9]
Acid Alizarine Anthralan® Genalan® Sulphon® Supramine® Supranol®	ACID		■				■			■	■		■	■				■
Palatine®	ACID METALIZED		■				■			■			■					
Naphthol Fast Color Bases	AZOIC	■	■		■	■		■	■	■		■	■		■		■	■
Genacryl®	CATIONIC (Basic)		■	■			■		■	■	■			■		■		
Benzofix® Fastusol®	DIRECT					■							■		■			■
Diaminogen® Diazo Oxydiaminogen® Zambesi®	DIRECT, DEVELOPED					■						■			■			■
Celliton® Genacron®	DISPERSE	■	■	■	■		■	■	■	■	■	■	■	■		■	■	
Cellitazol®	DISPERSE, DEVELOPED	■	■		■		■	■	■	■	■	■	■	■			■	
Anthracene Chrome Chromogene® Chromoxane®	MORDANT ACID (Chrome)		■				■			■			■					
Supralan®	NEUTRAL METALIZED		■				■				■		■			■		■
Indo Carbon® Katigen®	SULFUR					■									■			■
Algol® Indanthrene®	VAT					■		■							■			■
Algosol®	VAT ESTER (Soluble)		■			■		■							■			■

To help you keep abreast of new dyeing procedures, we have just completed a new 90-page booklet, "The Dyeing of Synthetic Fibers." For your copy, write direct or call the GDC Service Representative nearest you.

†Company Trademarks: (1) Chemstrand Corporation; (2) Celanese Corporation of America; (3) Courtaulds (Alabama), Inc.; (4) American Cyanamid Co.; (5) E. I. du Pont de Nemours & Co.; (6) Union Carbide Chemicals Co., Div., Union Carbide Corporation; (7) Eastman Chemical Products, Inc.; (8) Beaunit Mills, Inc.; (9) Dow Chemical Co.

Announcing...

From
Staley's Research
Center

A major advancement in stream pollution control!

OXYTROL

Low B.O.D. STARCH

Now, for the first time—a low B.O.D. starch for warp sizing—with only a fraction of the B.O.D. of regular textile starches. Recommended for sizing a variety of yarns—and at low solids levels!

Now available in limited pilot plant quantities—OXYTROL will be in full commercial production on completion of Staley's new plant

Here's another Staley first—an economical warp size which provides an answer to water disposal problems that have long confronted the textile industry.

This latest Staley development, new OXYTROL, is a low B.O.D. (biochemical oxygen demand), chemically modified starch. Standard 5-day B.O.D. tests prove it exerts some 70% less B.O.D. than regular starches.

Free-flowing, cold water swelling, Staley's new OXYTROL starch desizes easily. And can be used at any desired temperature.

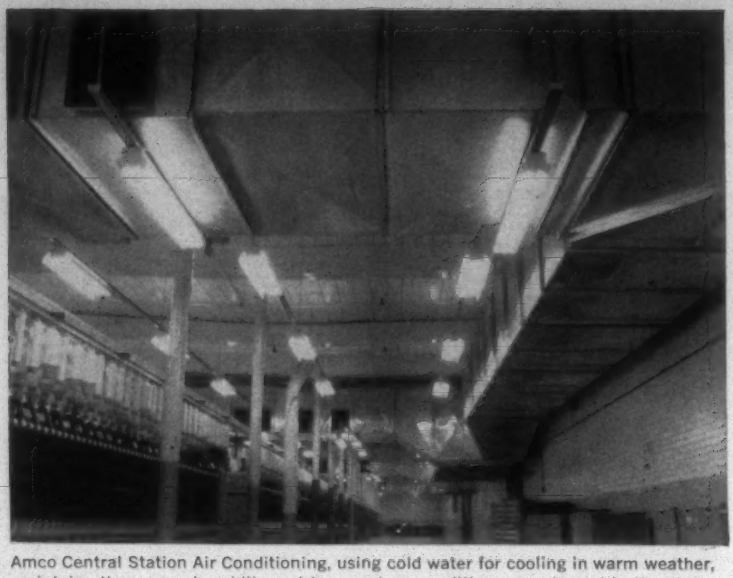
OXYTROL starch gives better weaving protection. Actual mill runs demonstrate cotton warp sizes of 5% to 7% solids, made with OXYTROL, equal the performance of warp sizes of 10% to 12% solids, made with regular starch sizes.

Save 13¢ to 21¢ per pound on your low B.O.D. sizing costs. Investigate and compare the many advantages new OXYTROL low B.O.D. starch can bring to your operation. For further information, see your Staley representative, or write:

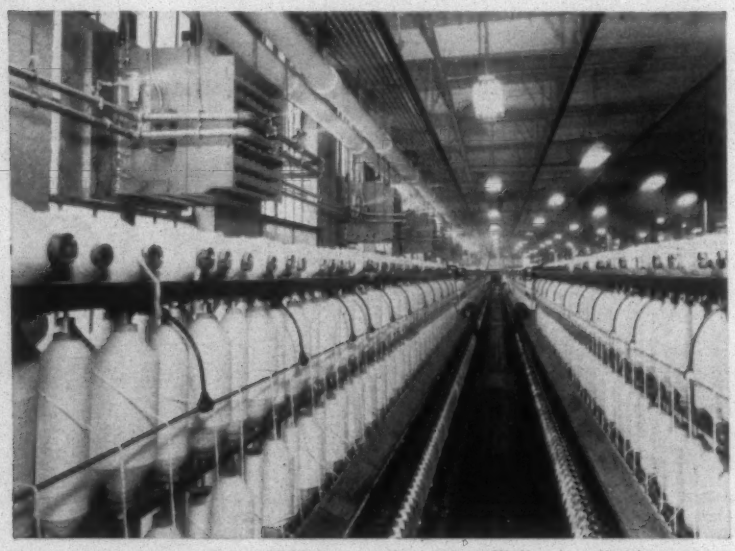
Artist's drawing of Staley's new six story OXYTROL production plant now under construction. Scheduled for completion sometime later this year, plant will house new process equipment developed by Staley's.

A. E. STALEY MFG. CO.
Decatur, Illinois

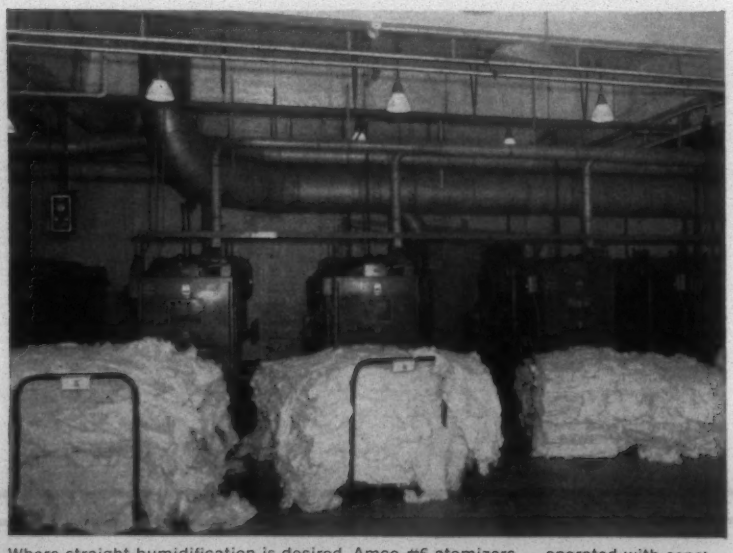
ATLANTA • BOSTON • CHICAGO • CLEVELAND • KANSAS CITY • NEW YORK • PHILADELPHIA • SAN FRANCISCO • ST. LOUIS



Amco Central Station Air Conditioning, using cold water for cooling in warm weather, maintains the proper humidity and temperature conditions year 'round in the above spinning room.



Amco ductless system of humidification, cooling and ventilating installed in a spinning room. Window units and Amco #6 atomizers visible at left, supply properly conditioned air.



Where straight humidification is desired. Amco #6 atomizers — operated with sensitive Amco humidity controls — provide just the right degree of relative humidity for blending, opening and picking operations.

Look to Amco for help in solving any air conditioning problem you may have

Most mill owners face a variety of air conditioning problems. All areas of the three mills illustrated here, for example, required different and distinct types of air conditioning. Amco helped solve these needs by the installation of the proper Amco system, suited to the individual requirements. The results have been better quality, greater worker comfort, and improved efficiency.

Do you have an air treatment problem in your mill? Choose from these systems, used by leading mills, to provide central station air conditioning in one area, humidification alone in another, or a unit ductless evaporative cooling system in still another. Amco, of course, also installs unit dry duct systems.

Whatever your needs, remember . . . you can depend on Amco to give you reliable advice and an expert installation of the system best suited to your particular case.

AMCO

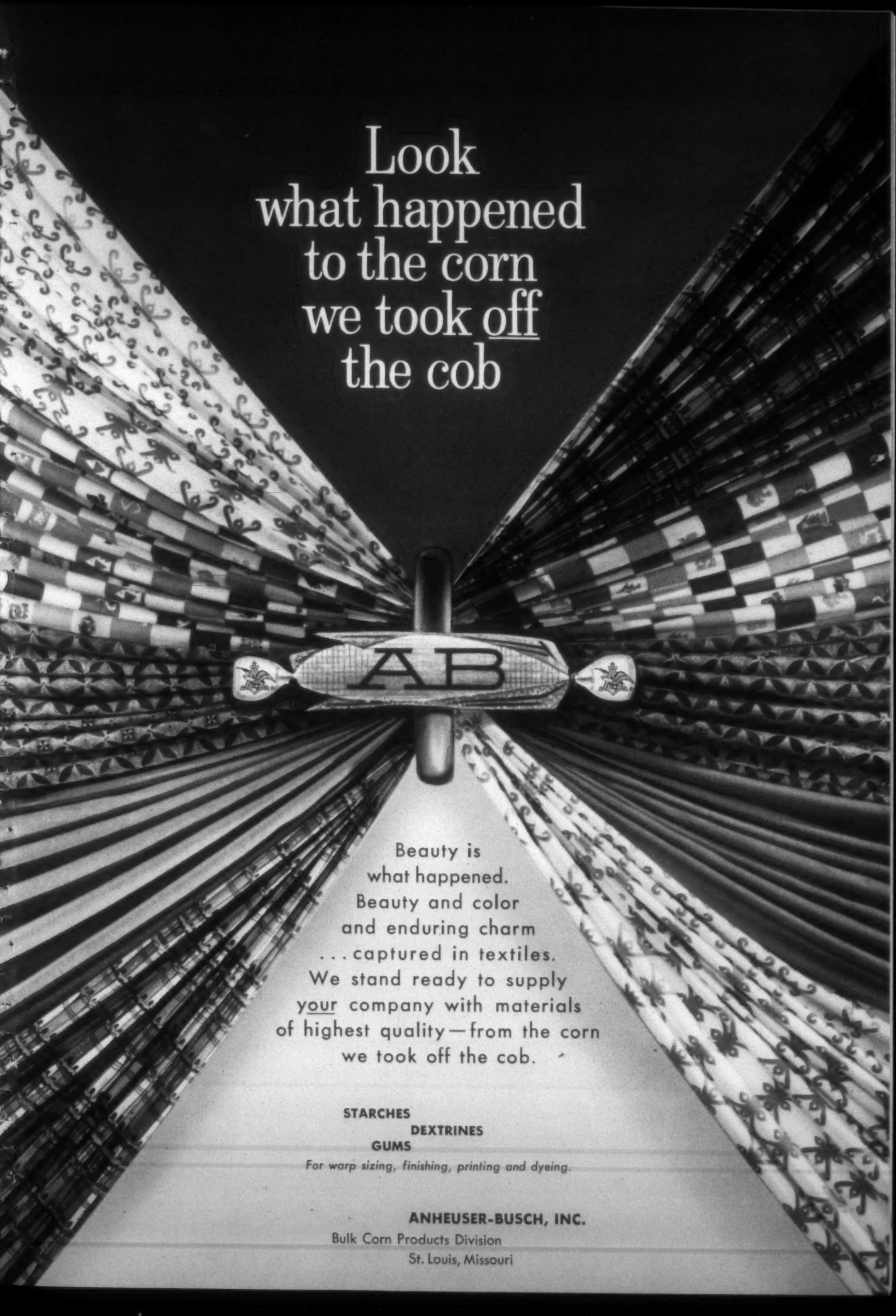
SINCE 1888

AIR CONDITIONING EQUIPMENT

American Moistening Company • Cleveland, North Carolina

Branches: Atlanta, Ga. • Providence, R. I.

Toronto, Canada


Look
what happened
to the corn
we took off
the cob
AB
Beauty is
what happened.
Beauty and color
and enduring charm
. . . captured in textiles.
We stand ready to supply
your company with materials
of highest quality—from the corn
we took off the cob.
STARCHES
DEXTRINES
GUMS
For warp sizing, finishing, printing and dyeing.
ANHEUSER-BUSCH, INC.
Bulk Corn Products Division
St. Louis, Missouri

NOW! LOOM BOBBINS

by Stehedco

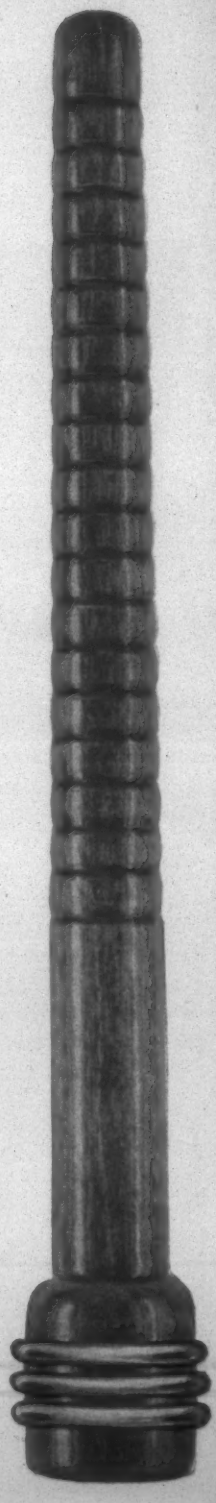
After years of Research and Development, and proven performance in leading textile mills, Stehedco Precision Bobbins are now available for high speed production of every type of yarn and fabric. Manufactured in our modern air-conditioned Greenville, South Carolina, plant, you have available the facilities, services and production of one of the largest loom bobbin plants in the country.

Manufactured under the same strict Quality Control that has made all Stehedco Products justly famous, these Super Precision Bobbins will guarantee you lower run-out and better balance than any other bobbin available.

When you want to produce Quality yarns and fabrics with greater efficiency and economy, it is imperative that your bobbins are of equally high quality. Stehedco Precision Bobbins give you the high quality you require.

Quality SPINNING, WINDING, WEAVING
Needs Stehedco Precision Bobbins.
YOU CAN DEPEND ON STEHEDCO

QUALITY Stehedco CONTROL



STEEL HEDDLE MFG. CO.

Philadelphia, Pennsylvania

SOUTHERN SHUTTLES DIVISION

Greenville, South Carolina

SALES REPRESENTATIVES

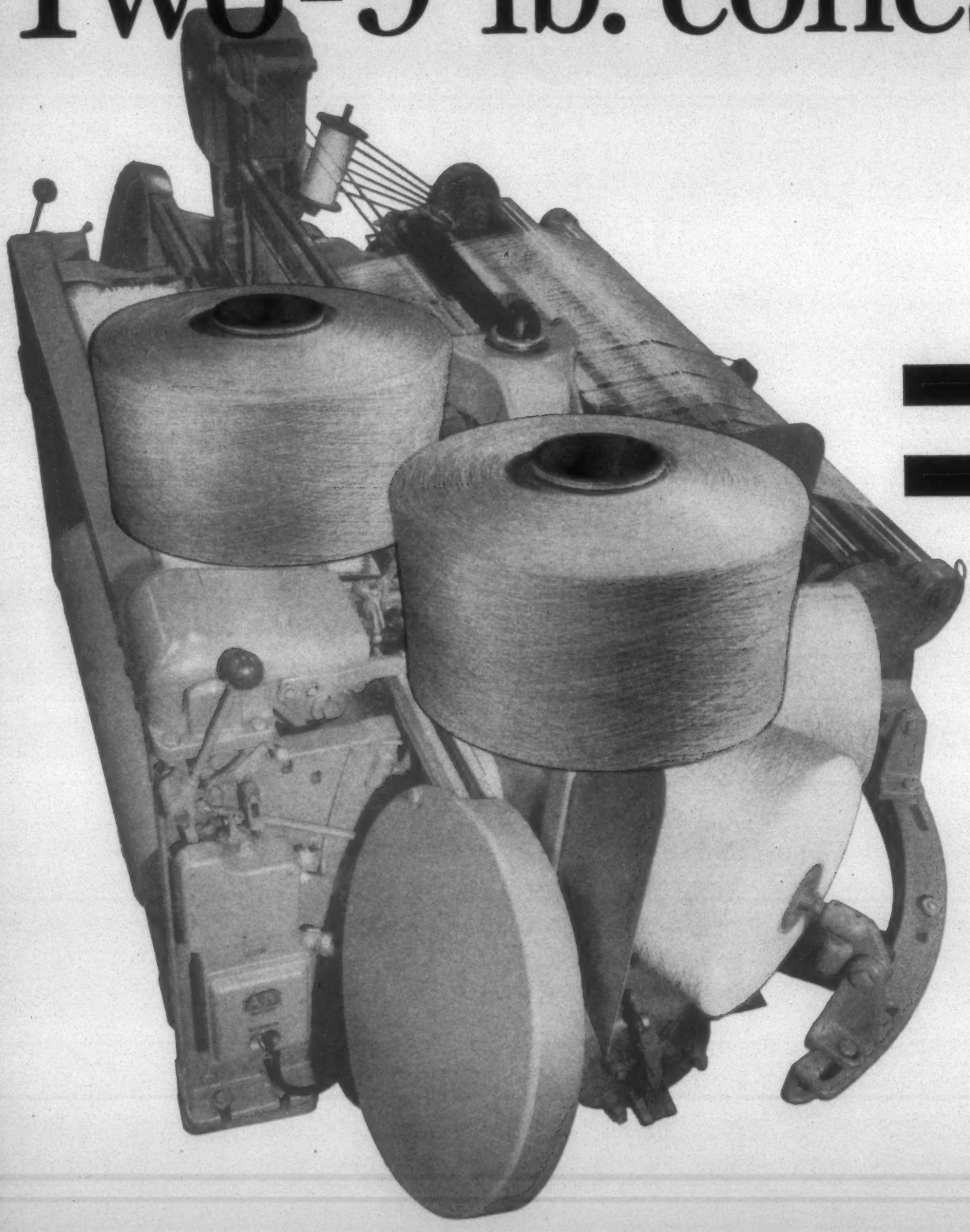
SOUTH CAROLINA: R. M. "Mike" Turner, Box 545, Clinton, S.C.;
W. B. "Brad" Dunson, Box 321, Greenville, S.C.

NORTH CAROLINA, VIRGINIA, TENNESSEE: Floyd New, Box 9202, Plaza Station, Greensboro, N.C.;
C. H. "Chal" White, Route #6, Box 644, Charlotte, N. C.

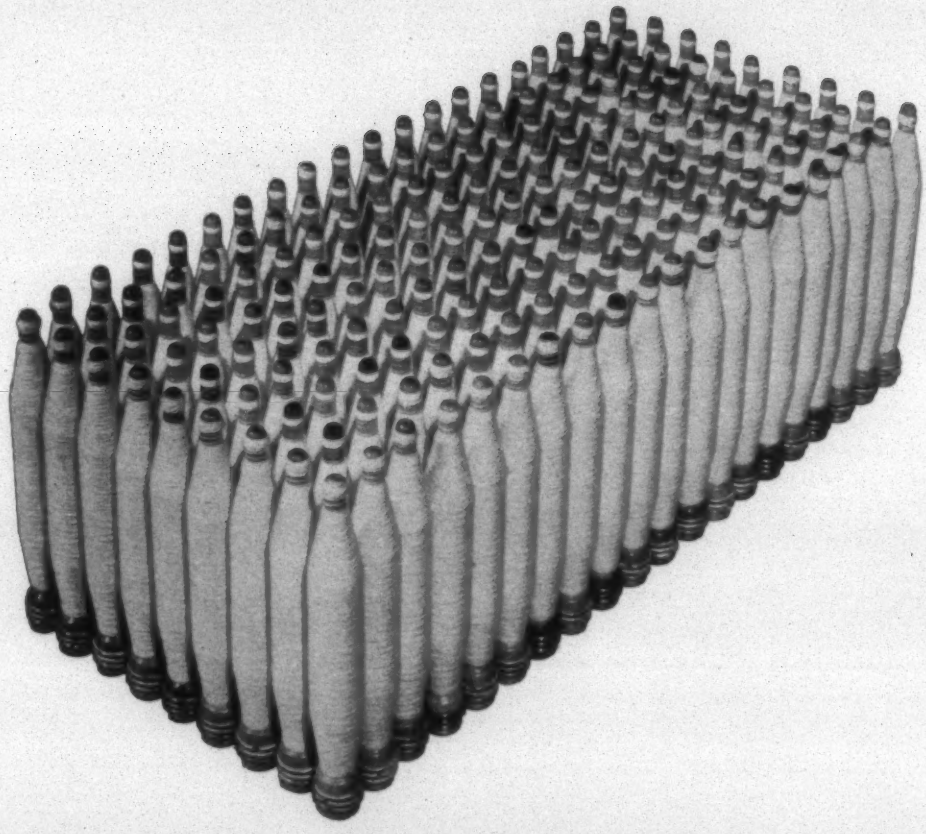
GEORGIA, ALABAMA: Hugh K. Smith, Box 472, West Point, Ga.

(B-6006)

Two-9 lb. cones



180 bobbins*



The Draper Shuttleless Loom, with its *compact filling supply, drastically cuts costs of delivering filling yarn to the loom.*

Two filling packages, each nine pounds in weight, supply filling yarn equal to that supplied by *180 conventional loom bobbins**.

Less filling handling means; cleaner yarns, fewer cloth seconds, more continuous loom operation, and substantial reductions of weave room costs.

You are cordially invited to visit with us at our exhibit in Greenville, booth nos. 132-133-134.

**22's yarn / 1-7/16" diam (bobbin) / 8-3/4" length (bobbin)*

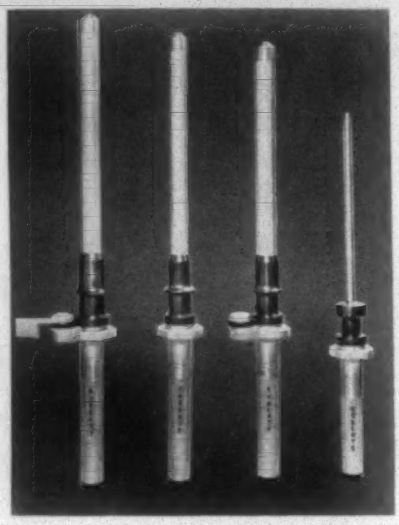
DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N.C. • SPARTANBURG, S.C.

For The Textile Industry's Use

— NEW MACHINERY, EQUIPMENT AND SUPPLIES —

Ball-Bearing Spindles



New design, high-speed Supreme ball-bearing spindles to which a cam brake may be attached originally or at any later date have been put into quantity production by Roberts Co., Sanford, N. C.

The new spindle design, in conjunction with precision ball bearings, assures a smoothly operating anti-friction spindle for utmost dependability at higher spindle speeds with larger packages, according to the company. Speeds of 15,000 r.p.m. are said to be achieved.

It also permits mills who do not require spindles with brakes for their current package sizes to be prepared for ever increasing spindle speeds and yet have the ability to add the brake at a future time.

A self-contained unit, the brake is attached to the spindle base with one cap screw. The cam action is smooth and self-locking. The brakes can be detached for spindle plumbing so that they are not in the way during this operation. After plumbing they are quickly and easily re-attached by fastening the cap screw.

The ball bearings are grease packed and no further lubrication is ever required, Roberts reports. However, the bearing shields have a small hole in them so that in special applications three to five drops of oil can be added every three years.

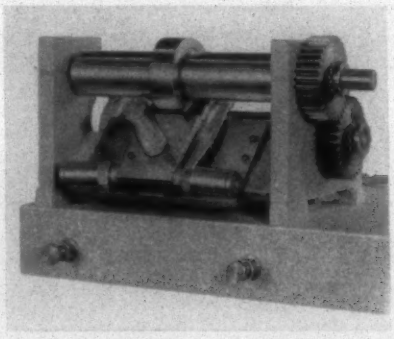
The spindles also feature a one-piece base of special heat-treated aluminum alloy. Small whorl diameters, achieved with the Roberts design, are said to afford a considerable reduction in cylinder speeds and horsepower consumption, while extending the life of cylinders, bearings, tape tension pulleys and tape.

The high smooth finish and an internally built doffer guard are designed to keep lint adherence to a minimum. Removal of the doffer guard screw permits disassembly of the rotating mechanism without removal of the one-piece aluminum spindle base from the rail, so that replumbing is unnecessary.

Supreme spindles for top drive tubes up to 12" long with ring sizes up to 3½" are available; also for top drive filling quills 8 to 8¾" long with ring sizes up to 1⅝" in diameter. Standard equipment on all Roberts Arrow spinning frames, Supreme spindles are also available on modernized frames or in changeovers.

(Request Item No. J-1)

Synthetic Tow Crimper



Turbo Machine Co., Lansdale, Pa., has redesigned its Model DC crimper for synthetic tow with improvements for producing a superior crimp.

Air cylinders on each side of the delivery gate insure proper fiber infeed. A third air cylinder controls the pressure in the stuffing box for required crimp. An adjustable stop holds minimum and maximum roll openings.

Crimper rolls are 4" in diameter. They are available in widths from ¼ to 6". The complete unit adjusts to accommodate any roll width.

Tow is fed into the crimper at a 45° angle directly from a lead-on roll. Double and triple tow can be run in continuous operation.

(Request Item No. J-2)

Dye Bath Agitator

Gibbs Machine Co., Greensboro, N. C., has developed a new independent mechanical agitator that can be added to existing installed dye baths. The new machine is installed while the bath continues in operation. Service is not interrupted.

Savings in operating costs will pay for the unit in a very few months and produce profits thereafter, Gibbs reports. More important, the company says, dyeings are uniformly worked, thereby substantially improving their reproducibility and level dyeing results.

The unit is designed to be readily adaptable to all types of baths and to operate at any desired speed and length of stroke, comparable with laboratory procedures.

The independent unit is not designed to replace the firm's regular line of complete mechanized sample dyeing machines, but serves as a supplement to the line to aid labs and finishers who have non-mechanized dye baths already in operation.

(Request Item No. J-3)

Spray Finishing

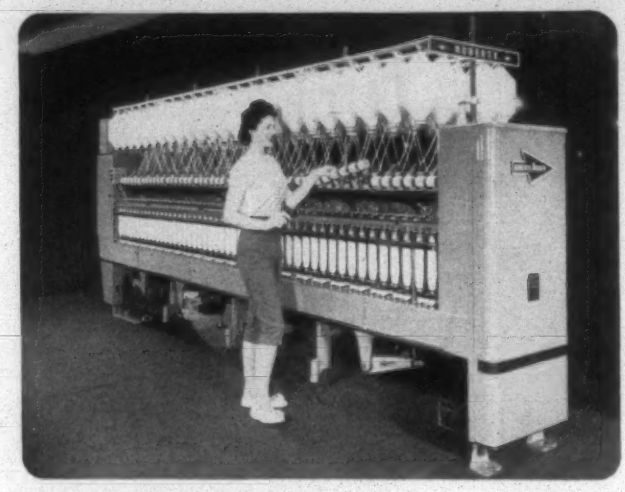
Greenville Steel & Foundry Co., Greenville, S. C., is now producing finishing equipment designed for the Du Pont Unifog spray process. The unit consists of a series of misters developed and manufactured by Binks Mfg. Co., Chicago, Ill., which are arranged to provide even application of a finish to the sides of a fabric in a continuous operation.

The finishing solution may be sprayed from the mister by air pressure or steam, depending on the application.

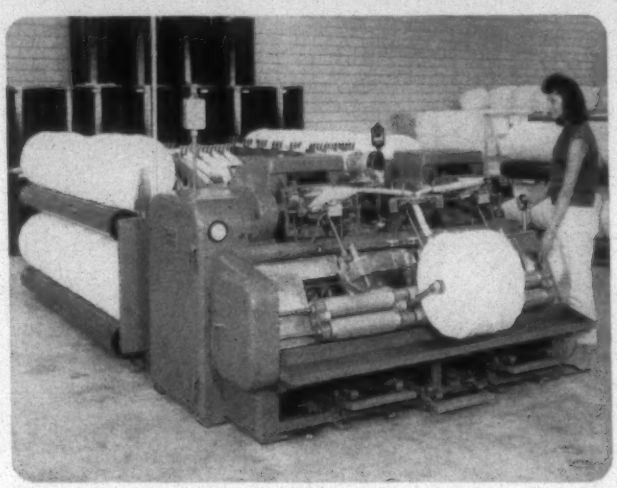
The spray process is said to introduce less moisture into the fabric, thus reducing drying cost and increasing capacity of the range. It is reported that

ROBERTS

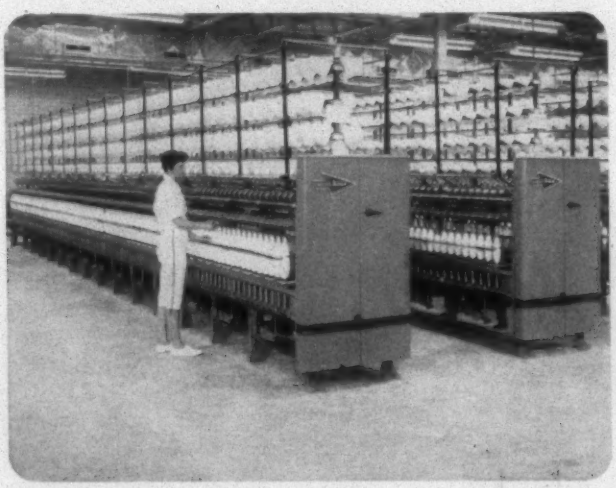
YARN MAKING MACHINERY
for Cotton, Worsted, or Long Fiber Systems



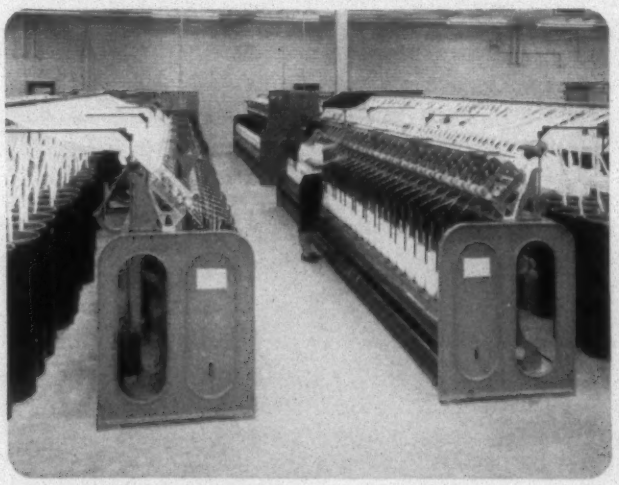
ROBERTS ARROW SPINNING for both cotton system and long fiber system yarn spinning for natural and synthetic fibers and blends. High speed, all ball bearing, big package Arrow Spinning Frames in 25-inch or 36-inch width. Exceptional flexibility and simplicity of operation in the manufacture of improved quality yarns at reduced costs and modest initial investment.



ROBERTS-TEMATEX worsted system preparatory machines, including ParaBlenders, ParaDrafters and AutoEveners, are rugged, high performance machines for pinning, parallelizing, drafting and blending worsted and synthetic fibers prior to roving and spinning, and in top making plants. AutoEvener automatically and instantaneously corrects delivered sliver weight to within plus or minus 1%.



ROBERTS TWISTERS for plying yarns are completely ball bearing equipped and designed for high speed ring twisting operations. 25- or 36-inch frames. Up to 3½-inch rings and 12-inch bobbins. Package weights 1¼ pounds on cotton, ¾ to 1 pound on worsted.



ROBERTS ROVING FRAMES are ball bearing rebuilt and feature all-new heavy duty ball bearing Roberts Double Apron Drafting Systems for cotton, short staple or long fiber synthetics, worsted and blends. 10x5 and 12x7 packages. Provisions for double headed spools.

Simplicity of design, rugged construction and high speed ball bearing operation are the trade marks of all Roberts Company machinery. Roberts also supplies rebuilt spinning frames and modernization change-overs for mills' existing machinery.

ROBERTS COMPANY

SANFORD, NORTH CAROLINA

the desired quantity of most finishing materials can be applied to the fabric with a wet pickup which will normally range between 15 and 30% on dry fabric weight.

The equipment is said to allow a finish to be applied immediately preceding Sanforizing, and eliminating the conventional cold spray operation.

Napped or pile fabrics can be finished with an improvement in appearance and hand, it is reported. Finishing agents can be applied to embossed or surface effect fabrics that would be damaged by passage through padding operations.

Parrott & Ballentine are sales agents for the new equipment. Units have already been delivered to Crystal Springs Bleachery in Chickamauga, Ga., Rock Hill (S. C.) Finishing Co., Cannon Mills Co., Kannapolis, N. C., and Thomaston (Ga.) Mills.

(Request Item No. J-4)

Spinning Frame Builder Produces Tip Bunch Bobbins

A new machine which puts the tip bunch on a filling bobbin and makes it possible to use direct-spun filling in an automatic filling magazine has been developed by Southern Machinery Co., Greenville, S. C. Actual production of the unit is scheduled for 1961.

Labeled the Bild-o-Matic, it is an automatic spinning frame filling builder that will wind any type of quill for any make of automatic loom.

The Bild-o-Matic is said to eliminate the need of rewinding filling in order to make use of the Draper magazine.

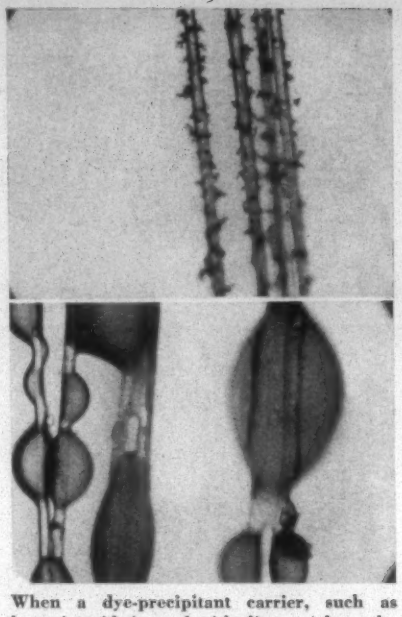
(Request Item No. J-5)

Dyeing Assistant

Brighter, heavier shades in a wider, more attractive range of useful colors are to be expected for polyester, triacetate and acetate fibers when a new dyeing assistant developed by American Cyanamid Co., Bound Brook, N. J., is included in the dye bath.

Supplied as a readily dilutable emulsion, this new carrier, Cyanatex dyeing assistant EM, accelerates the penetration of the dye into the fiber at below-the-boil temperatures. Shorter dyeing cycles, lower dyeing temperatures and better color values are said to result.

Unlike most of the solid carriers used in the past, Cyanatex EM does not reduce the light fastness of dyeings even when not completely removed from the dyed materials, Cyanamid reports. The need for a strong, alkaline afterscour to remove the carrier, therefore, is eliminated. Wet fastness and fastness to wet and dry pressing of dyeings are also reported to be exceptionally good.



When a dye-precipitant carrier, such as benzoic acid, is used with disperse dyes, the dye-carrier precipitate builds up around a polyester fiber as shown in the top picture. A dye-solvent carrier, such as Cyanatex Dyeing Assistant EM, forms colored globules with disperse dyes. These globules attach themselves to the polyester fiber as shown in the bottom picture.

Polyester, triacetate and acetate fibers require carriers to make the dye go into the fiber. As dye bath additives, the carriers accelerate the rate of dyeing and promote exhaustion of the dye bath. With Cyanatex EM, for example, a dyer can produce a dyeing in one hour, which, without the carrier, may require 24 to 50 hours.

Cyanamid's new carrier may be added directly to the prepared dye bath. It is effective over a wide pH range of 5.5 to 9.5 and will remain so throughout most dyeing cycles at temperatures up to 180° F. The latter property is attributed to the fact that Cyanatex EM does not vaporize rapidly from the dye bath at 180° F. or below.

Compatibility tests with disperse dyes are said to indicate that other additives are unnecessary in the dye bath to obtain dyeing conditions suitable for polyester and triacetate fibers. Although Cyanatex EM is effective at all temperatures used in dyeing these fibers, optimum efficiency in dyeing is achieved when dyeing near the boil in equip-

REZOSOL binders pay off here

Loom pick counters tell the Rezosol story best. Houghton's new polymer binder for sizing spun blends containing the newer synthetics pays off in *increased* production. Rezosol improves weaving efficiency . . . reduces shedding . . . lowers kettle costs . . . reduces seconds . . . makes mixing easier.

Rezosol is added to the starch to improve its adhesion to yarn. It is remarkable, say users, how a little does such a lot of good in providing better weavability.

For details on Rezosol products—new members of the Houghton textile processing family—write E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa. or Carrollton, Georgia.

Industry's Partner in Production

E. F. HOUGHTON & CO.

Philadelphia, Pa. • Chicago, Ill. • Carrollton, Ga. Detroit, Mich. • San Francisco, Calif. • Toronto, Canada

FOR THE TEXTILE INDUSTRY'S USE—

ment that maintains the fabric at a uniform temperature during the dyeing operation, Cyanamid reports.

In dyeing acetate piece goods in open jigs, uneven cooling and migration of surface-deposited dyes frequently cause shading of selvages and non-uniform distribution of color across the fabric. As little as 0.25% Cyanatex EM, based on volume of the dye bath, will minimize or eliminate these problems, it is reported.

Because it reduces staining of wool and cellulosic fibers by disperse dyes, Cyanatex EM is particularly useful in dyeing mixtures of polyester or triacetate with wool or cellulosic fibers. By proper selection of dyes, a one-bath procedure may be used for some shades.

If a two-bath procedure is required, the polyester or triacetate fiber is dyed with Cyanatex EM in the dye bath. Afterscouring is followed by a conventional dyeing cycle for the wool or cellulosic material.

(Request Item No. J-6)

Air-Operated Clutch

A new air-operated clutch for applications up to 5 h. p. and weighing only 15 lbs. has been introduced by Horton Mfg. Co., Minneapolis, Minn. Shockless starts without overheating provide a versatility heretofore unavailable. The unit is self-adjusting, has anti-friction bearings, requires no rotary joint, and is a combination motor sheave and clutch.

The Model LW clutch is designed to use the 3V belts for compact drive arrangement. The clutch is designed for use with motors up to 5 h.p. at 1,800 r.p.m.

(Request Item No. J-7)

Laboratory Oven

A double-door, under-the-counter oven with a temperature range from 380 to 121° C., specially designed to conserve laboratory space, is now being offered by Electric Hotpack Co., Philadelphia, Pa.

The new double-door oven, built to standard laboratory size, is used for artificial aging, drying and other thermal tests where controlled heating conditions are necessary. A calibrated adjustable thermostat is located on a recessed panel at the base.

Maximum protection from accidental damage and unauthorized adjustments to the thermostat are afforded by the recessed panel and a sturdy plexiglass cover.

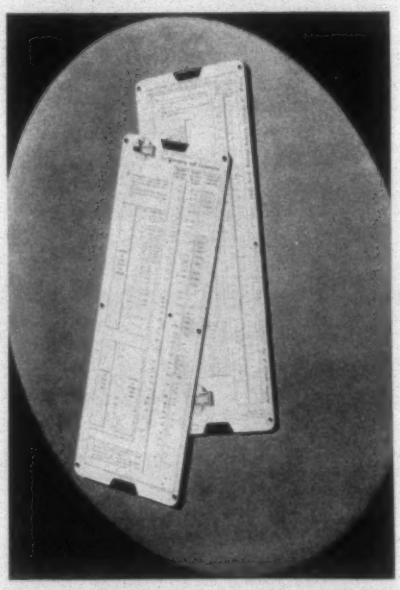
Constructed of heavy gauge steel, the oven exterior is finished in gray enamel. Exterior is 48 x 30 x 36″. The double-door construction does not have a center post.

A polished stainless steel interior chamber has a capacity of 11 cu. ft. Walls are insulated with a 3″ blanket of decompressed glass wool. Three adjustable shelves are made of perforated metal.

Highly resilient asbestos strips are compressed at the door to form additional seals against thermal loss and air infiltration.

(Request Item No. J-8)

Strapping Calculator



A new strapping calculator designed to help gear strapping orders to requirements and advantageous price breaks is available from Signode Steel Strapping Co., Chicago, Ill.

For any of the 27 stock sizes and kinds of Signode steel strapping, the calculator solves seven types of problems: (1) Computes the pounds of strapping needed for a given package size, whether rectangular or round; (2) figures the total strapping necessary for a given production run; (3) calculates the strapping cost per unit for any package; (4) establishes the total strapping cost per unit for any package; (5) computes the cost-per-foot for each strapping variety; (6) shows number of feet per pound and tensile strength for each stock size and kind of Signode steel strapping; and (7)

indicates the quantities at which favorable price breaks are available.

Each basic step in operation of the calculator is printed clearly and briefly on the face. Examples and detailed instructions are in an accompanying booklet.

(Request Item No. J-9)

High-Speed Warper

The Allen Co., New Bedford, Mass., has introduced a new high-speed warper designated Model G. The new unit incorporates a patented hydraulic control system which is said to solve the problem of uniform warp density. In the Model G, the beam is driven by surface contact against the beam barrel and yarn by a drive-pressor cylinder. The drive-pressor cylinder always remains in the same position. Therefore, the nip of the yarn between the cylinder and beam is unvarying. The yarn angle is always constant and the distance from the measuring roll is always the same. As a result, the yarn is wound on the beam at uniform tension.

The hydraulic system is said to automatically maintain uniform density controlled pressure between the drive-pressor cylinder and the yarn being warped. While the cylinder does not move, the beam moves outwardly in a horizontal plane, its position hydraulically controlled so there is always uniform pressure.

Another advantage claimed for the system is that the uniform drive pressure automatically assures uniform yarn speed. This results from the absence of the abrupt jumps in speed experienced with the conventional method of periodically adjusting the drive speed in an endeavor to compensate for warp build-up.

The unit is also equipped with a variable speed control which gives the operator fingertip control of yarn speed, infinitely variable over a ratio of 4 to 1 of absolutely constant yarn speeds.

(Request Item No. J-10)

Lift Trucks

Design advances built into its G-54 line of gasoline and LP-gas powered industrial lift trucks provide greater work capacity for the units, according to Yale & Towne Mfg. Co., Philadelphia, Pa. Improvements in power transmission, mast construction, compact-

ness, operating speeds, stability, operator comfort and ease of maintenance are designed for better service and reduced costs to the owner.

Short turning radii, only 70″ for the 3,000-lb. capacity model, plus fast lift speed, 80 f.p.m. empty and 75 f.p.m. fully loaded for all models, results in faster cyclic operations.

The compact dimensions permit operations in narrow aisles, give increased maneuverability in cramped space, and speed operations.

An automatic torque transmission is standard in all Yale G-54 trucks. The cushion tire model uses a single range constant mesh type while the pneumatic tire model utilizes a two-speed range transmission. Both feature interlocking I-beam mast construction. Capacities available include 4,000 and 5,000-lb. models in addition to the 3,000-lb. unit.

(Request Item No. J-11)

Electric Car

A new one-battery electric car that seats one man and his equipment has been introduced by the Birdie Co., Summit, N. J., for in-plant transportation. It weighs only 181 lbs., has a low center of gravity and a safe speed limit of 4½ m.p.h. It operates with accelerator and foot brake. The car is 35″ wide.

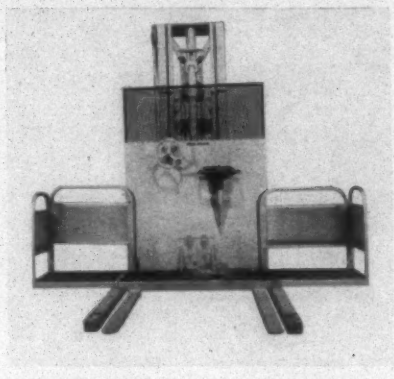
The Birdie car is suggested for plant executives, supervisors, maintenance men, messengers, spot checkers and other personnel required to move regularly from one place to another within a plant or warehouse.

A big heavy-duty battery powers the Birdie car for 10 miles. Each car contains its own charger and can be recharged overnight. No special wiring is necessary. Simply plug in any outlet.

The Birdie car is driven by a single rear wheel, thereby eliminating heavy transmissions and differentials; there are relatively few parts to maintain. The car has a direct belt and chain drive for complete control.

(Request Item No. J-12)

Remote Control JackStacker With Collapsible Platform



A collapsible wing type platform on a standard remote control JackStacker design enabling operation in wide or narrow aisles has been announced by Lewis-Shepard Products Inc., Watertown, Mass.

The collapsible wing type platform allows operation in aisles only 6′ wide with the wings closed and larger aisles (to suit) with wings open. A full set of controls for steering, lifting, lowering and driving in forward and reverse are located on the operators platform.

These two features enable an operator to easily position himself at any storage level to either select or deposit goods and operate in wide or narrow aisles.

(Request Item No. J-13)

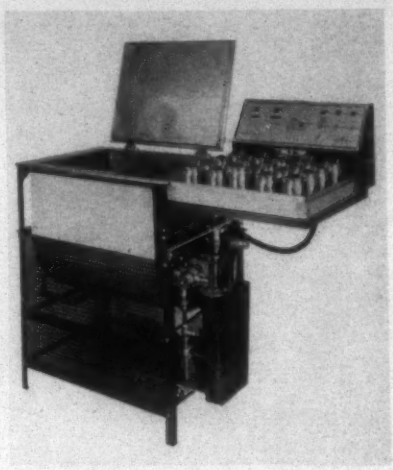
Laminated Burlap Tubing

Burlap Tubing Manufacturers Inc. of Philadelphia, Pa., has developed a method for laminating polyethylene to burlap tubing used in shipping. The treatment is said to result in improved appearance, the elimination of bonding agents since only heat is required, and the elimination of the possibility of the merchandise being stained in handling, which can happen with the tar used in the conventional bonding of paper to burlap.

Because polyethylene of various thicknesses can be used, the tubing can be tailored to a customer's special needs. The company reports that it has laminated polyethylene in thicknesses ranging from .001 mil to 4 mil. The new product has been named Poly-Bel-Tex bias sewn laminated burlap tubing.

(Request Item No. J-14)

Launder-Ometer



Atlas Electric Devices Co., Chicago, Ill., announces a new model Launder-Ometer which may be operated at temperatures up to 300° F.

For high temperature dyeing up to 20 new high pressure stainless steel containers, 3 x 6″ high, may be used simultaneously. The containers are provided with fittings which permit injection of additives during test and release of any built up pressure before opening.

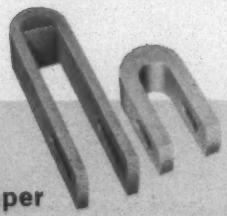
A high boiling point fluid such as ethylene glycol is employed in the bath. It is rapidly brought up to 300° F. by electric immersion heaters and is quickly cooled to handling temperature by a water cooling coil.

This new Launder-Ometer can also be operated with conventional specimen containers at the temperatures required by the standard tests for colorfastness to washing and dry cleaning.

Also available for use in all Launder-Ometers are new one-pint stainless steel specimen containers which may be used as a substitute for the one-pint glass jars.

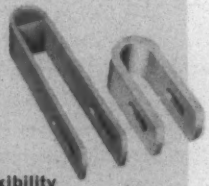
All Launder-Ometers now in use may be equipped with the new quick release type jar holding fixture instead of the previously used spring clamps and wing nuts. This new fixture holds from one to five specimen containers of the same type and is adjustable to accommodate the high pressure metal containers, one-pint metal containers,

Why Gates Lug Straps last longer... insure smoother operation



Super Tex-Hide Lug Straps

Users report up to five times longer service on their heaviest looms from Super Tex-Hide than from any other strap.



New Thin-Tex Lug Straps

When extreme flexibility and much lighter weight are needed, Thin-Tex Lug Straps give up to 25% longer life than ordinary straps... and smooth out loom operation.

Because of the great strength of Tex-Hide—a product of Gates *Specialized* Research—the block can be molded into the strap without the use of bolts or rivets. As a result, straps are streamlined and light in weight.

Yet, because of their superb resilience, they give longer service, and smoother operation, *than any other strap you have ever used.*

2 big advantages of Gates Tex-Hide Lug Straps

1 Tex-Hide Lug Straps combine great strength with unsurpassed resiliency. They soak up blows and shocks *without taking any permanent stretch.*

2 Further, the great resiliency insures long life for *all parts* of the picking motion, and gives extended periods of operation *without any strap adjustments.*

Gates Distributors are in the YELLOW PAGES

The Mark of Specialized Research

The Gates Rubber Company

Denver, Colorado

Gates Rubber of Canada Ltd., Brantford, Ontario

Gates®

Take-up Roll Coverings
Card Bands
Cone and Evener Belts
Spinning Frame Drives

Reversible Pickers

Tex-Hide Harness Straps

Tex-Hide and Vulco Loop Pickers

4-in-one Check Straps
Multi-Check Straps

TPA

Gates Textile Accessories

FOR THE TEXTILE INDUSTRY'S USE—

one-pint glass jars or the 3½ x 8" metal specimen containers and adapters.

(Request Item No. J-15)

Synchro-Range Drives

The Louis Allis Co., Milwaukee, Wisc., has announced the introduction of Bulletin 111 Syncro-Range Drives, ranging in sizes 2 to 15 h.p., and providing adjustable speed of synchronous induction motors running in exact synchronism over a wide range of speed.

The drive is an integrated system consisting of an adjustable frequency power supply, one or more Syncro-Spede drive motors, and a control panel. Adjustable frequency power is supplied from an a.c. alternator driven by a constant speed squirrel cage induction motor which provides infinitely adjustable speed through the mechanical interaction of adjustable discs and a ribbed belt. By adjusting the power supply output, the drive motors can be varied in speed over a wide range, maintaining exact synchronism of all motors at any fixed speed and also while increasing or decreasing speed. The control panel includes alternator field supply and all necessary controls for proper operation of the drive.

The Syncro-Range Drive is designed for operation of multi-unit conveyors; textile printing or finishing, synthetic fiber spinning, drawing or twisting; and other similar continuous process machines which require the application of power at a number of points on the machine.

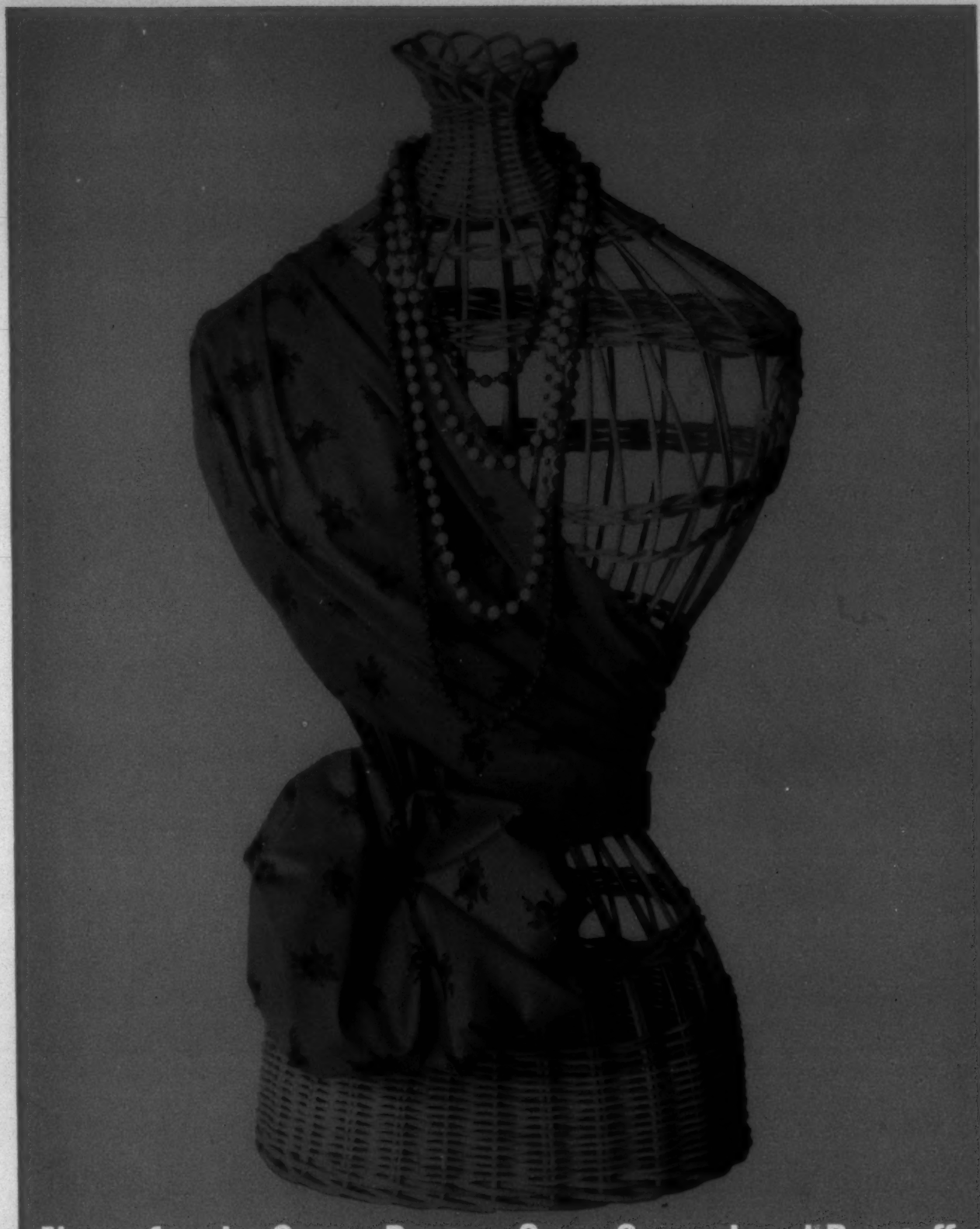
(Request Item No. J-16)

Nip And Crown Check Of Rolls Simplified

A new and simplified method for testing both the nips and crowns of rubber covered rolls has been announced by Stowe-Woodward Inc., Newton Upper Falls, Mass. The firm's Nip Width Tester consists of 6" wide rolls of specially-designed and embossed aluminum foil, with an exact thickness maintained throughout each roll of foil.

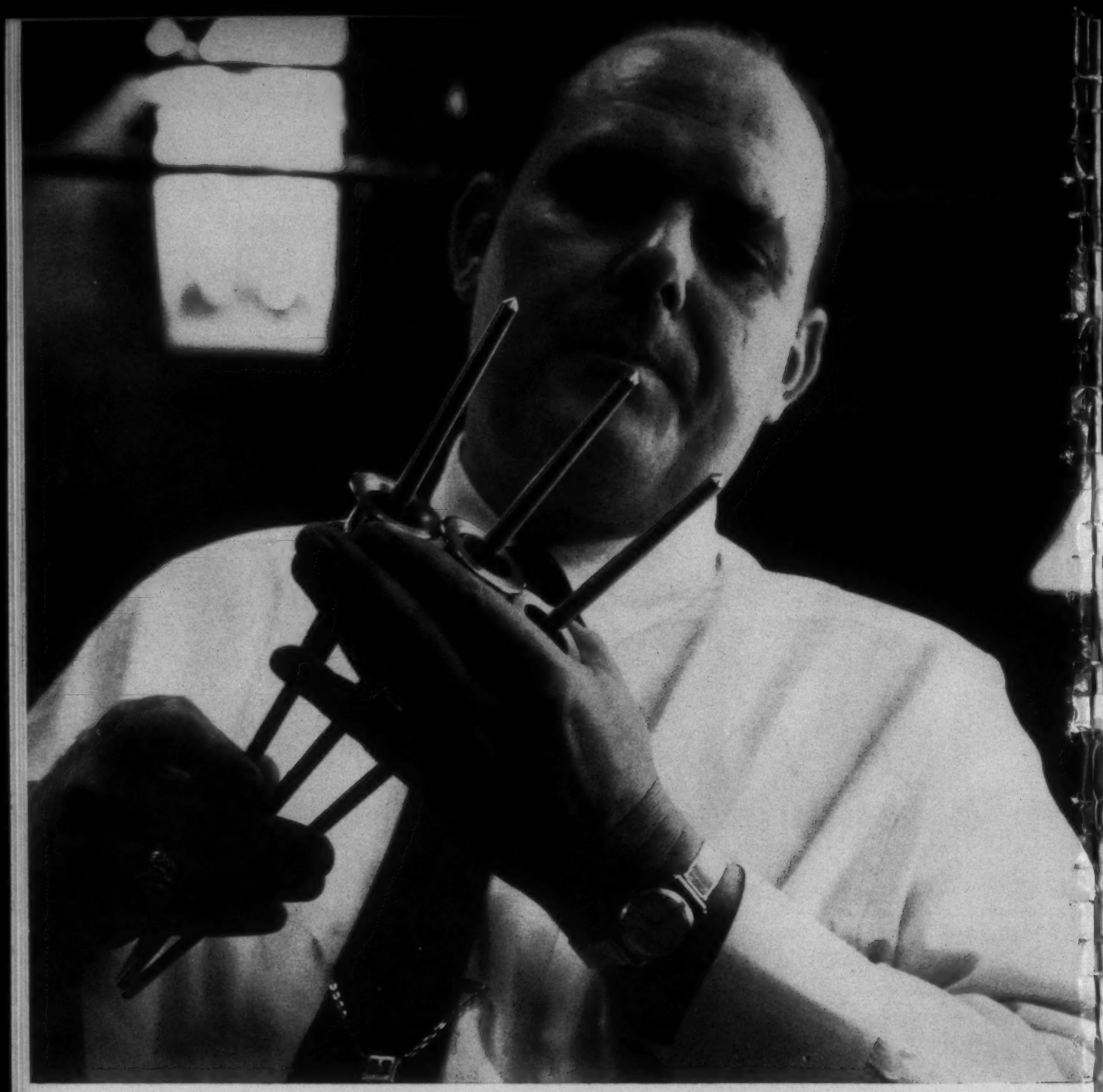
Procedure for making the test is said to give both fast and accurate results. A strip of foil is pulled from the dispenser, is placed across the face of the rubber roll to be checked and is fastened in place with strips of pressure-sensitive tape. Reduced pressure is applied to engage the rolls and bring both ends into contact evenly. As the pressure is increased, the foil is pressed flat in the nip so that, in effect, a picture is taken of the nip contact area.

The sensitivity of the foil pattern is said to provide a sharp, clear impression which permits measurements to within one hundredth of an inch. Extreme variations are immediately discernible. An obvious example would be an end-to-end variation which could indicate uneven side-to-side loading. This might be the case if there was a



News for the Cotton Printer... Geigy Cuprophenyl® Dyestuffs

for dischargeable ground shades are economical, easy to apply on standard equipment, have excellent dischargeability and outstanding light and wet fastness. Geigy Dyestuffs, Ardsley, N.Y.



Look alikes. Z. K. Kelly, Spinning Foreman, holds three clean spindles. Yet, only the left spindle is a new one. The center spindle is four years old, and the spindle on the right is five years old. Gulfspin keeps them looking new.

At Harriet & Henderson Cotton Mills, spindles clean after

GULF MAKES THINGS

For the past five years, Gulfspin lubricating oil has been used on all spindles in Harriet & Henderson's five cotton mills. "After spot-checking the spindles," says Mr. Z. K. Kelly, Spinning Foreman, Henderson Mill, Henderson, North Carolina, "we saw no reason to remove them. They were still clean after five years. So we decided to let them run and make periodic spot checks.

"We've seen what happens when spindles are lubricated poorly," says Mr. Kelly. "They turn black and corrode. And gum forms on them. This causes spindle drag, a lack of uniform twist-per-inch, and results in more ends down per thousand spindles. In short, it hurts product quality. But with Gulfspin on the job, we never worry about poor spindle lubrication."

Mr. W. W. Bishop also had a lubrication problem. As Weaving Foreman in the Henderson Mill, he supervises

Monthly oil check. This spindle lube cart is loaded with Gulfspin lubricating oil. Foreman T. D. Peck uses it to check oil level every month in plain bearing spindles and every year in ball bearing spindles.

Roving frames. Gulfcrown Grease is used to lubricate bobbin and spindle drive gears. This lithium base, general purpose lubricant has helped Harriet & Henderson Cotton Mills reduce drive shaft replacements.

Checking a loom. Dan C. Austin, Gulf Sales Engineer, left, and W. W. Bishop, Weaving Foreman, talk over the performance of Gulfcrown Grease E.P. It's used on main drive cam surfaces—and it stays.

Two old pros. J. D. Cooper, right, President and General Manager, Harriet & Henderson Cotton Mills, Inc., and Gen. J. W. Jenkins, Gulf Distributor. "J. D." knows that he can get any Gulf lubricant in 30 minutes from the General's bulk plant.

5 years of lubrication with Gulfspin® oil

RUN BETTER!

production on 448 looms. "I had trouble getting grease to stay on main drive cam surfaces. But, then I started to lubricate them twice weekly with Gulfcrown® Grease E.P. Now, there's always grease on the cam surfaces."

May we have the opportunity to demonstrate how Gulf lubricating oils and greases can provide better protection for your textile mill equipment? Just contact your nearest Gulf office.

GULF OIL CORPORATION
Department DM, Gulf Building
Houston 1, Texas

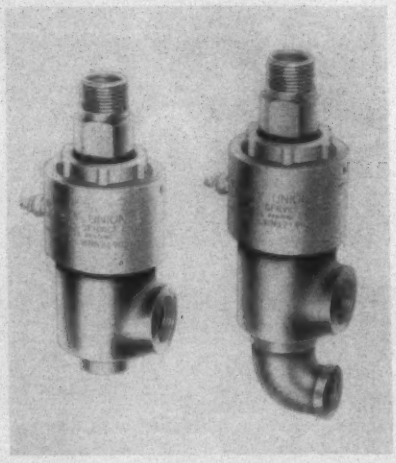
GULF

malfunctioning of the loading mechanism or pressure gauges. Before start-up the situation could be corrected.

It is in the area of fine measurements that the real value from the test is seen and the advantages significantly utilized, according to the company. A pair of fine point dividers and a 6" rule graduated in hundredths of an inch are used to measure the nip impression on the foil. Intervals of 1 to 2" along the pattern are marked off and a reading is taken at each point. This would compare with the divisions used to measure crown on the face. The readings are then plotted on graph paper and analyzed.

(Request Item No. J-17)

Revolving Connection



A revolving connection that forms a positive seal between a stationary supply line and revolving equipment is being marketed by Perfecting Service Co. of Charlotte, N. C., under the trade name of Rotary Union.

Rotary Unions are made in two types. Type P is a single inlet unit designed to convey liquids or gases into or out of revolving machines, rolls or drums. Type S (syphon) has dual pipe connections where both supply and return of gases or liquids are required within the same unit.

A new positive sealing principle uses a monel bellows, keeping the sealing surfaces parallel and leak-proof.

Another feature is the new mechanical seal designed to automatically adjust to the actual pressure of the media being transferred. The ball bearing and self-aligning construction reduces strain and wear on the seal assuring long trouble-free service.

This Rotary Union handles steam, water, air, vacuum, gases and industrial fluids on applications up to 250 p.s.i.

Shipped from stock in pipe sizes ¼ through 3" with right or left-hand threads. Machine threads furnished for speeds over 600 r.p.m. Flange connections are available for mounting the Rotary Union to the revolving drum or cylinder.

(Request Item No. J-18)

Cation-Active Softener

Crest Chemical Corp., Newark, N. J., has announced the development of Velvacrest L, a cation-active softener recommended specifically for synthetic fabrics. The new substance is a snow-white, stable liquid emulsion which is chemically a new type of stearic acid amine compound in pure state. It contains no emulsifying agents, no solvents, no polyethylene, no waxes and no adulterants of any type, Crest reports.

Velcacrest L is said to permit the ultimate in ease of handling since it can be added directly to the bath where it is to be used. It is soluble even in ice water, Crest reports, and fills the need for an effective softener that can be used directly without preparation.

The softener is designed to assure a durable soft, lofty hand with maximum draping qualities for all synthetics. It can be used on whites with no yellowing and on colored goods with no alteration of color or light-fastness of dyed goods.

(Request Item No. J-19)

Carriers And Binders

Scher Bros., manufacturing textile chemists of Clifton, N. J., announce the introduction of its new series of Scherbro carriers and Schercobinder binders for use with all types of fabrics.

Six types of Scherbro carriers are now offered by the company. They are said to be cold water dispersible, to have freedom from crystallization or precipitation, to be non-toxic and to have stability over a long period with a shelf life of nine months and longer. The line was developed to cover every possible need, every possible use and every possible operation in connection with both dyeing and printing. They are designed to help give a clean color, sharpness of print and exceptional color value. These carriers are especially useful for Dacron polyester fiber and Kodel polyester fiber, which are very hard to dye without a carrier. They are also widely used for dyeing of Arnel triacetate fabrics.

The Schercobinder pigment binder meets the great demand for a binder for oil in water printing and padding which is simple to use. It does a "one-unit" job, as all that is necessary is for a thickener and solvent to be added. Unusual fastness to crocking and to laundering is said to be obtained. Most colors tested showed zero, or a crock so close to zero that it was negligible. The binders are said to show excellent results with Dacron polyester fiber, Orlon acrylic fiber and other hydrophobic fibers, without affecting the hand.

The new carriers and binders may be used with cotton, rayon, silk, linen and all types of natural fibers, as well as the synthetics.

(Request Item No. J-20)

New Header Motion For Producing Tufted Rugs

British Tufting Machinery Ltd., Lancashire, England, has developed a new header motion which is said to be particularly useful in the production of modern rugs that have an area of tufting surrounded by a section of plain hessian. In this construction, the hessian is folded round and a filling inserted in the rug. This is protected by a special backing cloth which is then stitched over the entire back of the rug.

The new header motion allows the operative to stop the machine, cut off any remaining loops on the loopers and then disengage the machine with the needles in the "up" position while feeding through the backing cloth. In this way an untufted section of hessian is passing through the machine.

The mechanism is said to be simple, consisting of an electro-pneumatic clutch and an individual electric motor drive for the carpet backing. A measuring device coupled to the unit automatically cuts out the machine after a length of rug material has been tufted. The operative then "rocks" the machine to cut off remaining tufts and then feeds the backing through.

The same motion can be fitted to broadloom machines and is particularly useful when a length of new backing is to be introduced to the machine.

All existing tufting machines built by British Tufting can be fitted with this new mechanism.

(Request Item No. J-21)

For the Mill Bookshelf

Materials Handling Equipment

A new 2-color, 16-page booklet outlining the advantages of renting materials handling equipment is available from Clark Rental Corp., New York City.

Through the rental organization, the complete line of fork trucks, powered hand trucks, towing tractors and straddle carriers manufactured by Clark Equipment Co.'s industrial truck division can be rented on contracts from one to five years.

A feature of the booklet is a 1-page chart which enables equipment owners to itemize their operating expenses and compare them with the cost of renting comparable equipment. The comprehensive chart includes factors such as overhead, equipment obsolescence and other expenses often overlooked when determining cost of equipment ownership.

Before the rental contract is drawn up, a special engineering survey is made to determine quantity and types of equipment needed and the degree of maintenance desired. This survey enables the rental customer to develop the most efficient materials handling system possible.

The booklet also describes Clark's nation-wide network of maintenance centers, all linked by a private teletype system for prompt parts ordering.

(Request Item No. J-22)

High-Speed Precision Balances

General purpose high-speed precision balances, designed for small capacity industrial weighing operations of all types, are described and illustrated in a new bulletin offered by The Exact Weight Scale Co., Columbus, Ohio.

The versatile Series K balances are available in three capacities — 800 grams with 1/10 gram graduations— 2,000 grams with 1 gram graduations —and 4,000 grams with 1 gram graduations. Dials reading in pounds, grains or pennyweights can also be provided.

The balances utilize the principle of weight by substitution to assure maximum accuracy. They are designed to be fast and easy to operate with no special instruction required. Weight readings are indicated with a shadow-edge light projection on a large, direct-reading illuminated dial.

The unobstructed weighing pan, available in a variety of designs, is conveniently located on top of the instrument. In addition, provision is made on all models for weighing samples in commodity pans suspended below the balance. A built-in taring device can also be supplied for deducting the weight of empty containers from the gross weight.

Bulletin 3414 includes complete specifications and operating instructions for the Series K balances.

(Request Item No. J-23)

Chemical Product Directory

Goodyear Chemical Division of Goodyear Tire & Rubber Co., Akron, Ohio, has published a new product directory designed to acquaint the reader with the variety of materials and services offered by the chemical division.

New bulletins will be issued for the directory from time to time to keep it up to date.

(Request Item No. J-24)

Viscometers

Bulletin No. V-1230 describing its viscometers for atmospheric pressure applications has been released by Norcross Corp., Newton, Mass. The viscometers are said to be easy to install. The measuring element can be installed on any existing tank or vessel and the receiver can be remotely located as desired due to electrical transmission. The units are said to be continuously self-cleaning. They are corrosion resistant with wetted parts of stainless steel.

(Request Item No. J-25)

Machine Shop Tools

A new 96-page catalog showing its complete line of engine lathes, toolroom lathes, turret lathes, milling machines, shapers, drill presses and pedestal grinders has been released by South Bend Lathe, South Bend, Ind. A considerable portion of the catalog is devoted to tools, attachments and accessories for use with the various machines.

Complete specifications, feature descriptions and prices are included to facilitate selection of sizes and types of machines. Nearly 500 illustrations are used to illustrate the scope of the line and applications.

(Request Item No. J-26)

Dyes And Chemicals Bulletin

The Du Pont Co., Wilmington, Del., has released a 102-page dyes and chemicals technical bulletin. Section titles are as follows: Du Pont Sponge-Core Package Dyeing Process; New Products; Ponsol Brown GF Double Paste, Sulfogene Carbon HCF Liquid and Sulfogene Carbon MCF Liquid; Du Pont Dyes on Avril Stabilized Rayon Fiber; Du Pont Dyes on Acrilan 16 Acrylic Fiber; Dyeing of Orlon Sayelle Acrylic Fiber; Printing of Fabrics of Dacron Polyester Fiber; and Decolorization of Basic Dyes on Acrylic Fibers.

(Request Item No. J-27)

Textile Leathers

The Charles Bond Co., Philadelphia, Pa., announces the publication of its new catalog No. L-160 on textile leathers. The catalog contains information and specifications on round and flat leather belting; leather sundries for looms such as check straps, lug straps, loom pickers; and accessories including picker sticks, belt dressing, cement, etc. Also included are horsepower rating table for belts and other belt selection data.

(Request Item No. J-28)

Control Instruments

Pressure gauges, thermometers and control instruments are described in Bulletin 3020 offered by U. S. Gauge, division of American Machine & Metals Inc., Sellersville, Pa.

Pressure gauges described in the comprehensive 6-page bulletin are the bourdon-type covering a wide variety of industrial applications. Photographs illustrate each of the ten types covered, with information on dimensions, ac-

curacies, construction features and suggested uses given in the text.

Included under temperature measurement are dial and glass tube thermometers, panel type and multi-angle thermometers. Photographs illustrate the different models with text covering information on construction, dimensions, ranges and typical applications.

Control instruments included are indicating controllers, valve positioner and pilot options, recorders, chemical attachments and accessories.

(Request Item No. J-29)

Conveyor Catalog

New products and techniques are included in the revised general catalog issued by The Rapids-Standard Co., Grand Rapids, Mich., manufacturer of Rapistan conveyors, casters, wheels and other materials handling products.

New sections of the catalog cover APC (adjustable pressure) conveyor wheel and live roller models and Rapisteel slotted angle construction material. Photographs and diagrams are used to illustrate new techniques and applications of materials handling equipment and systems in warehousing, manufacturing and other areas of business and industry.

The catalog is indexed for easy reference, listing among subjects covered: Principles of a co-ordinated materials handling system, gravity conveyors, powered conveyors, framing material and live storage racks, overhead conveyors, special use conveyors, industrial conveyors, conveyor system accessories, casters, wheels and hand trucks.

More than 150 photographs are included in the 44-page catalog, illustrating products and applications.

(Request Item No. J-30)

Foam Control Guide

The basic facts of fast, efficient foam control are presented in a new comprehensive booklet on silicone antifoamers, available from Dow Corning Corp., Midland, Mich.

This manual tells where and how silicones actually reduce processing time and maintenance costs and increase production capacity and efficiency.

(Request Item No. J-31)

Textile Standards Published

Publication of the recently approved American Standard L22 has now been completed by the American Standards Association, New York City.

The 2-volume standard, costing $6, sets down the performance requirements for a variety of textile fabrics regardless of fiber content, and the test methods to be used to determine compliance with these requirements.

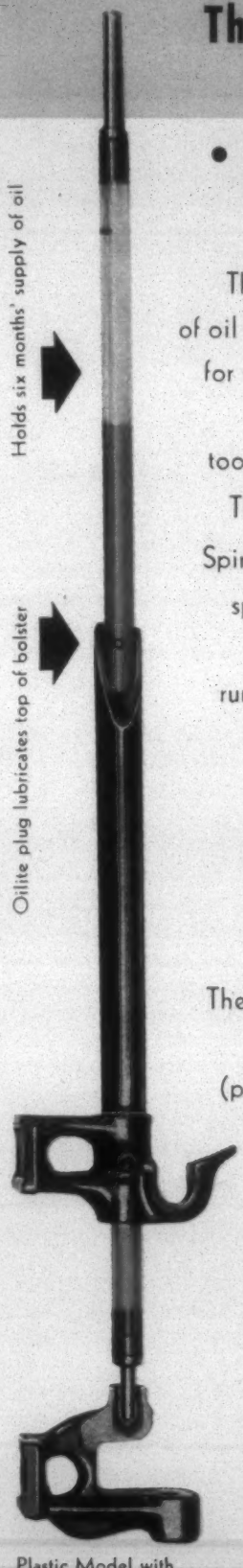
Sponsored by the National Retail Merchants Association, it is a revision and an expansion of the previous L22 standard approved in 1952, which covered only rayon and acetate fabrics. The new standard is designed to be one of the best tools ever devised by any industry for eliminating costly misunderstandings, claims and complaints, according to industry spokesmen. It covers performance requirements for 75 end-uses in women's and girls', and men's and boys' wearing apparel, and in home furnishings.

The standard establishes five formulas for evaluating the performance of textiles that are expected to withstand repeated laundering or dry cleaning. The standard also covers such characteristics as breaking and bursting strength, yarn slippage, colorfastness to different degrading elements, retention of hand character and appearance after refreshing, as well as other characteristics considered necessary for a given end-use performance. L22 has grouped more than 1,000 different textile finishes that claim distinct characteristics into basic categories, such as resistance to mildew, wash-and-wear; wrinkle resistance; crease or pleat retention, etc.

Test methods incorporated into L22 are those of the American Society for Testing Materials, the American Association of Textile Chemists & Colorists, the Textile Distributors Institute, as well as Federal specifications and tests of individual companies, namely: the American Viscose Corp. and the U. S. Testing Co.

Requirements for labeling include a color and letter code for identifying the procedure to be used in refreshing (laundering or dry cleaning) the item. Also included in it are requirements for detachable tags and for certification.

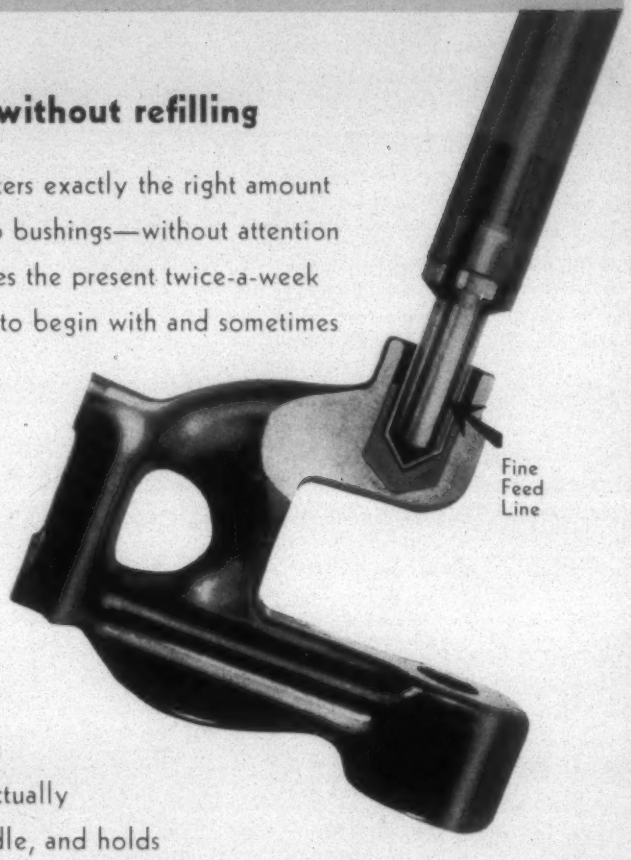
The New Ideal Self-Lubricating Roving Spindle



Plastic Model with cutaway of bolster and step

- **Meters oil as needed**
- **Runs 6 months without refilling**

This remarkable new spindle meters exactly the right amount of oil to spindle steps and bolster top bushings—without attention for six months or more. It eliminates the present twice-a-week haphazard oiling—too much to begin with and sometimes too little before the next oiling.



The Ideal Self-Lubricating Spindle greatly reduces wear on spindles, steps, and bolster bushings—assures free running at all times—saves on labor, on power, and on oil.

The spindle itself is a hollow steel tube which is hardened and ground and is actually stronger than a solid spindle, and holds enough oil for at least six months continuous running.

The spindle point and step are lubricated through a small opening in the point which meters out a tiny droplet of oil when its temperature reaches 100° (practically body temperature). The top bolster bushing is oiled by slow seepage through an oilite plug when the carriage reaches the end of the bottom stroke.

Let us show you how this Ideal Self-Lubricating Spindle will solve your oiling troubles and protect your equipment. Write or telephone for full information today.

Always enough oil—Never too much—6 months between refills

See it in Booths 239 and 240
Southern Textile Exposition

Ideal Machine Shops, Inc.

Bessemer City, N. C.

CONTINUOUS SERVICE TO TEXTILE MILLS SINCE 1925

Serving The Textile Industry

Lindly & Co. Reports High Percentage Of Foreign Sales

Lindly & Co., Mineola, L. I., reports that almost half its sales this year will be made to foreign textile producers.

Howard C. Lindemann, president of Lindly, said European producers often show greater willingness to try new labor-saving electronics equipment than their U. S. counterparts. "Foreign response has been so good that we opened a European technical service office this year," he added.

Speaking of other foreign markets for the company's specialized electronic controls, Lindemann said "sales have been improving steadily in Mexico, Brazil and other countries with lower cost labor standards, despite the stringent restrictions that prevail there."

Part of Lindly's recent sales successes overseas is attributed to the fact that foreign manufacturers have looked to the U. S. for leadership in mass production equipment. Another factor is the greater availability of funds resulting from higher profit margins enjoyed by larger foreign textile producers, Lindemann pointed out.

James Hunter Acquires Cen-Tennial Patent Rights

James Hunter Inc., Mauldin, S. C., Southern subsidiary of the James Hunter Machine Co., North Adams, Mass., has acquired the patents and rights to cotton opening and cleaning equipment made by the textile machinery division of Cen-Tennial Cotton Gin Co., Columbus, Ga. The equipment consists of the S.R.R.L. Opener-Cleaner; the Cen-Tri-Vac Cleaner, designed to prevent trash re-entering the stock; and the Cen-Tennial Textile Separator, a fiber condensing and cleaning unit.

Sonoco Products Acquires Dixie Paper Tube Co. Plant

Sonoco Products Co., Hartsville, S. C., has acquired the equipment and facilities of Dixie Paper Tube Co. of Richmond, Va. Eugene W. Mitchell, superintendent of the Dixie plant, continues in that capacity.

For the present the plant will continue to operate in the same location, producing paper tubes principally for Reynolds Metals Co. which are used for Reynolds Wrap aluminum foil and Reynolon. It is expected that additional equipment will be added at a later date in order to supply paper tubes in a full range of sizes.

Sonoco Products Co. was organized in Hartsville, S. C., in 1899 by James L. Coker. The company now operates plants in ten states and also in Canada and Mexico with affiliated companies in England and Australia. Sonoco and its affiliates are the world's largest manufacturers of paper tubes. Principal products include paper cones and tubes for the textile industry.

Beckwith Instruments Inc. Reports Increased Profits

Beckwith Instruments Inc., Fullerton, Calif., reports net income of $3.1 million on sales of $54.3 million for the fiscal year ended June 30 as compared with earnings of $1.8 million on sales of $44.9 million in fiscal 1959. Beckwith produces electronic components, instruments and systems for analysis, measurement, counting and control. The company reports that the future looks bright with record incoming orders and backlog. The tremendously increased expenditures for research of all kinds is said to promise an ever-expanding market for the company's instruments.

The Dixon Corp. Reports Brisk Changeover Business

The Dixon Corp., Bristol, R. I., and Charlotte, N. C., reports that it has sold 484 frames of spinning drafting changeovers in the last 2½ months, for mills ranging from Canada to Alabama. This figure does not include orders for over 200 additional frames where only repair and replacement of steel rolls was involved.

Dixon reports that recent orders have involved changeovers for Casablancas, Roth, Shaw, Z and conventional drafting systems. Conversions include all variations from simple conversion of Dixon patented self-aligning front top rolls to complete changeovers from the roller beam up, including roll stands, steel rolls, gearing, and center suspension system top rolls. Customers include chain mill organizations such as Lowenstein, Deering Milliken, Erwin, Pepperell, and American & Efird, as well as over ten individual mill organizations.

Carrier Reports Surge In Textile Air-Conditioning

Carrier Air Conditioning Co., a division of Carrier Corp., reports that it sold nearly five times as many systems to textile firms in the first six months of this year as it did in the same period of 1959. "This is the biggest advance in any of our markets in the last ten years," the company reports, "and undoubtedly will make 1960 a record year for sales to the textile industry."

Two major reasons were cited for the sharp rise. The first is the increase in textile plant expansion and modernization to cope with the anticipated business boom of the next decade.

The second is the development of the Rotaspray Weathermaker, a compact, self-cleaning central air-conditioning system developed by Carrier three years ago for industrial uses where accurate control of humidity and removal of airborne particles is essential.

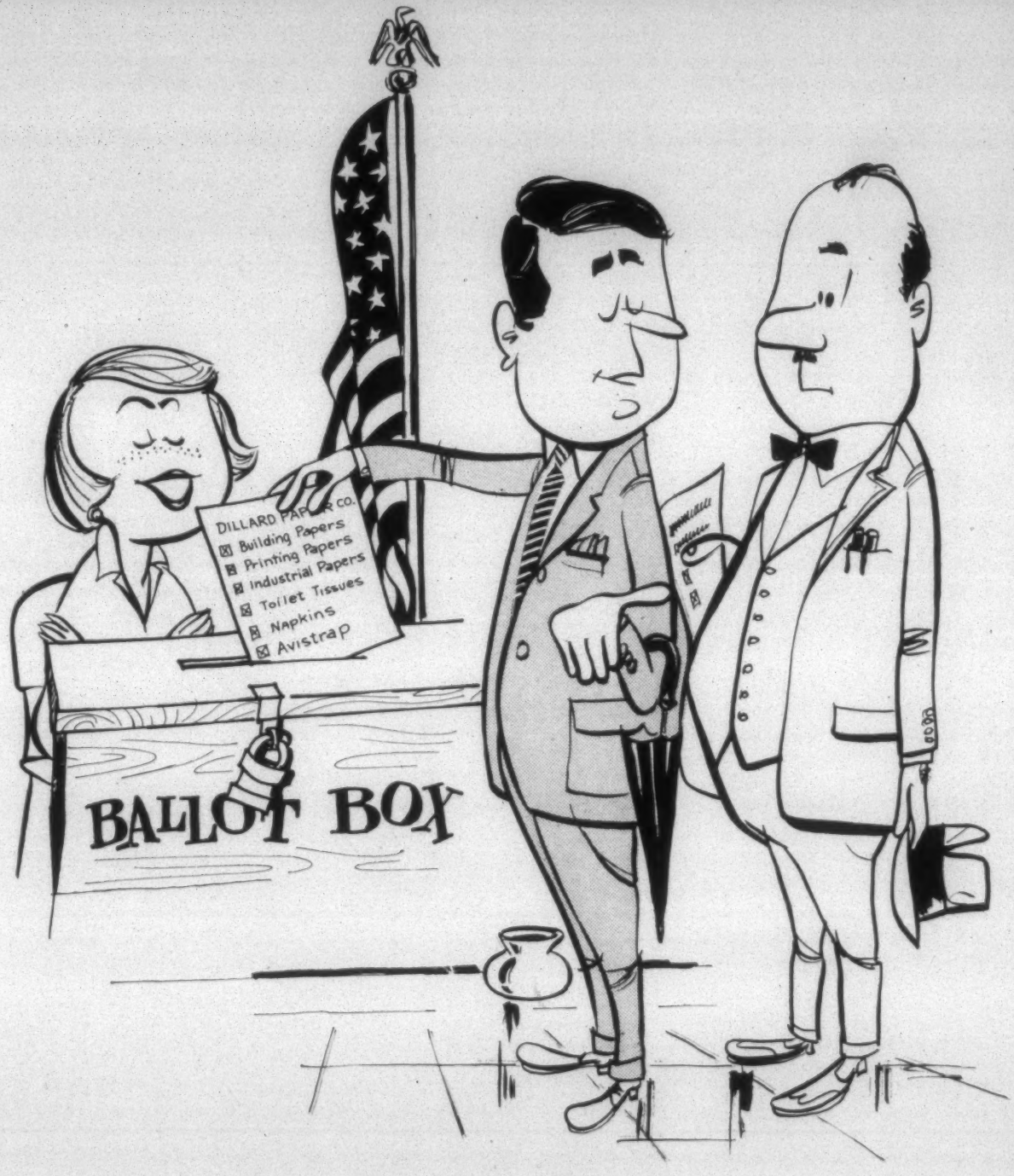
Leesona Reports Record Earnings In First Half

Consolidated net sales of Leesona Corp., in the first half of 1960 were the highest for any six-month period in the company's history, while net profits set a new first-half year record, the company reports.

In the six months ended June 30, 1960, consolidated net sales amounted to $15,911,034, a 41% increase over $11,235,270 in the like period last year.

Net income, after provision for taxes, totaled $1,362,763 as compared with $913,680, after preferred dividends required, in the comparable period of 1959.

The company said the sharp sales



"I vote the straight Dillard ticket every time!"

rise reflected the inclusion in the 1960 results of operations of Leesona-Holt Ltd., a British subsidiary, and a continued high demand for the Unifil loom winder and other Leesona products. The higher earnings, it was noted, were achieved in spite of substantial increases in research and development expenditures.

Results from the stepped-up research and development activities are already being realized, according to the company. The first shipments on new models of ultra-high-speed stretch yarn machines will be made this Fall, and firm orders on the new Uniconer, a high-speed automatic cone winding machine, will be taken starting about the same time. Production on the Uniconer is scheduled for the Fall of 1961. Work is also said to be progressing on a large-package ring twister machine.

Holyoke Machine Completes New Addition To Its Plant

The Holyoke Machine Co., Holyoke, Mass., manufacturer of calender rolls for the textile industry, recently completed another addition to its plant facilities. This is the third expansion in eight years and doubles the company's storage and warehousing space while stepping up the space devoted to finishing operations some 20%.

Riegel Paper Plans Merger With Lassiter Subsidiaries

Agreements proposing the mergers of Fairtex Corp. and Branson Yarn Co., both of Charlotte, N. C., into Riegel Paper Corp. have been signed by the boards of directors of the three companies. The merger of the two Lassiter affiliates into Riegel will be contingent upon consummation of the previously proposed merger of Lassiter Corp. into Riegel.

Lassiter now owns 45% of Fairtex's common stock. For the remaining 55%, of which Branson Co. owns 45% and other interests 10%, Riegel will exchange 7,578 common shares. In addition, 2,800 Riegel shares will be issued in exchange for all the common stock of Branson Yarn.

Fairtex and Branson Yarn had a combined net worth of $337,000 as of June 30, 1960. They manufacture all types of metallic yarns and metallic chips as used in automotive upholstery, drapery, apparel, linens and domestics and novelty fabrics. Their products are also used in floor coverings, plastics and industrial fields. Fairtex management and sales will continue to operate as before under the direction of Lanier Branson Jr.

Riegel is a leading producer of flexible packaging materials, bleached paperboard, pulp, folding cartons and specialty papers. Lassiter is a large independent converter of packaging films, specializing in the soft goods field and also manufactures folding cartons, labels and laminates for various industrial applications.

Maremont Officials Tour Saco-Lowell Textile Plants

Saco-Lowell Shops "will continue as an active, independent and vigorous leader in the textile machinery industry," according to Arnold H. Maremont, president of Maremont Automotive Products. Maremont said his company's recent purchase of 52% of Saco-Lowell stock was "an investment in a basic American industry which we believe has an excellent long-range profit and growth potential." He expressed confidence in Saco-Lowell's management and its policies.

Maremont stated his company's position during an early September visit to Saco-Lowell facilities in North and South Carolina. He was accompanied by Maremont Board Chairman Howard E. Wolfson and Jerome M. Comar, executive vice-president. The group was accompanied on its tour by Saco-Lowell Board Chairman David F. Edwards and by Royden Walters, vice-president and general manager.

"Our interest in Saco-Lowell is entirely constructive," Maremont said. "There will always be a need for textile machinery, just as there will be for automotive parts. We have become associated with the great leader of a historic industry, and in return, it is our belief that Saco-Lowell Shops will benefit from Maremont's record of achievement, growth and financial stability."

Speaking for Saco-Lowell, Walters welcomed Maremont's investment "as a major step forward in building Saco-Lowell's present and future position within the industry." He cited both companies' histories as classic examples of free enterprise and individual initiative, and pledged "Saco-Lowell's continued leadership in the textile machinery field."

Walters noted that both companies place major emphasis on technological advancements and product research, and he indicated that further expansion of Saco-Lowell's research and development facilities may be an early result of the Maremont investment. Saco-Lowell now maintains research and development facilities for its textile machinery division at Clemson, S. C.

In this connection, Maremont said that he personally believes research and development should be given the highest priority in any modern industry, and "especially one facing increased foreign competition, as are both the automotive and textile industries."

Walters reported that "with new stability and support lent by Maremont," Saco-Lowell looks forward to a substantial increase in earnings during fiscal 1960. He predicted that sales will climb to $38 to $40 million from last year's $27 million.

Edwards, Wolfson, Hubbard, Maremont, Comar

Arnold H. Maremont, president of Maremont Automotive Products, holder of 52% controlling interest in Saco-Lowell Shops, was recently conducted on his first tour of Saco-Lowell's new textile machinery division at Easley, S. C. Accompanying him on the tour were David F. Edwards, Saco-Lowell board chairman; Howard E. Wolfson, Maremont board chairman; J. W. Hubbard, Saco-Lowell vice-president of textile machinery sales; and Jerome M. Comar, Maremont executive vice-president.

In addition to its Easley and Clemson operations, Saco-Lowell has a textile machinery plant at Sanford, N. C. A plant at Biddeford-Saco, Maine, manufactures automotive and agricultural implement parts. The New England plant is also currently the prime contractor for the new M-60 machine gun now being used to equip U. S. and N.A.T.O. armed forces.

Maremont, with record sales last year of $31 million, is a leading manufacturer of automotive replacement parts, including mufflers and exhaust systems, brake shoes, blocks and linings, clutch parts and assemblies and camshafts. It has plants and facilities throughout the country, including a clutch and brake factory in Atlanta, location of its Southeastern division headquarters.

Bullard Clark Consolidates Two E. H. Jacobs Divisions

The E. H. Jacobs Mfg. Co., Charlotte, N. C., was formed recently to consolidate the E. H. Jacobs Northern Division and the E. H. Jacobs Southern Division of The Bullard Clark Co. All manufacturing of the Jacobs loom necessities will be done in Charlotte.

This new company, incorporated in North Carolina, will occupy the present E. H. Jacobs Southern Division manufacturing facilities at 3600 South Boulevard in Charlotte where the property has been expanded and renovated to allow for additional manufacturing.

The consolidation is designed to provide better service to the textile industry, the majority of which is located in the Southern states, Jacobs pointed out. W. R. Muller, former vice-president of The Bullard Clark Co., is president of the new corporation. Two other former vice-presidents of The Bullard Clark Co., C. W. Cain Jr., and L. L. Froneberger Jr., are vice-president and director, respectively, of the new firm. The manufacturing, sales and service personnel will remain essentially the same. There will be no change in continuity or operation at this time.

American Viscose Opens Avistrap Office In Atlanta

American Viscose Corp., Philadelphia, Pa., has opened the second district sales office in the Southeast for its new industrial packaging department in Atlanta and has named Herbert C. Schafer to the post of district manager.

The first product of American Viscose's new industrial packaging department is Avistrap cord strapping, a high-tenacity rayon cord which represents a new idea in industrial packaging. Avistrap, now in production at Avisco's Lewistown, Pa., plant, is said to offer economy, ease of handling, and greatly increased safety for shipping personnel since it has no jagged ends and does not snap if over-tensioned.

Avistrap is much lighter in weight than steel strapping, and is said to effect major economies in handling and permit the use of lighter cartons and containers, which in turn reduces shipping costs. The new Avistrap rayon strapping may also be economically imprinted with company or product name.

The new Atlanta office is the eighth district sales office opened by the industrial packaging department since Avistrap was first announced early in May, 1960. Other district offices are located in Philadelphia, New York, Chicago, Columbus, Ohio, Charlotte, New Orleans and Los Angeles; three more district sales offices are scheduled to be opened during 1960.

textile bulletin

VOL. 86 OCTOBER 1960 NO. 10

What Superintendents Expect Of Quality Control

TO BE EFFECTIVE, QUALITY CONTROL MUST BE THOROUGH WITH DEFINITE STANDARDS SET UP FOR THE PRODUCT

By J. L. DELANY

Joanna Cotton Mills Co., Joanna, S. C.*

QUALITY control means putting your house in order and keeping it that way. This can not be done overnight by the mere changing of a gear or method. There must first be a thorough study of the physical and mechanical set-up of each machine in each process. Definite standards must be set up to produce the product required, and plans made for both obtaining and holding these standards. Quality control is a goal one must reach—then work twice as hard to hold.

Machine Variance

Some time ago, we were told by our quality control department that our "within CV" on our cards was very good, yet our "over-all CV" was very bad. Our picker lap CV was quite adequate, hence we should have expected only a minimum deterioration at the cards, but we were in trouble. Ordinary defectives such as bent lap pins, bad lap run-outs, chokes in gears, bad gears, bad lapping and other abnormalities were soon cleared with no appreciable CV reduction. Our quality control people then ran a series of checks and came up with the answer. They found that over the years we had been adding more and more cards—all of the same make, but of different models. A large part of our trouble was in this machine variance. The quality control department pointed out that we had five lots of cards, each of which had a different draft gearing. While each was making an even, high grade sliver, it was being made to five different standards.

Our task then was to make one standard where five had previously existed. This meant drawing up a draft gearing plan of each model, deciding on which one to use, then an all-out program to cull out non-standard gears and to replace them with only approved standard gears. This program was a long drawn-out affair but it was finally completed and we succeeded in substantially lowering card CV.

Strange Gear Combinations

This particular disclosure prompted us to take a keen look at all of our carding and spinning units; each in turn was carefully gone over gear by gear, to insure standard gears on every frame in the mill. Coming as no great surprise, we found some very strange gear combinations, which were corrected. Additional work was done on checking weights on drafting rolls to be sure the same weight was applied identically throughout any given process.

To insure against this monumental amount of work being lost, we began a formal "Notice of Machine Change" plan. Any time a machine is changed a formal notice is sent to the quality control department which at all times knows what gear is on what frame and whether or not it is right. This rule we enforce rigidly.

Mangled Lap Rolls

Incidentally, while engaged in our card program we found that a large number of our card lap rest rolls were dented, banged up and in poor shape. Surprisingly no one at Joanna had given much thought heretofore to this one point, but we decided something should be done to remedy a poor condition. For instance, we found the rolls to be in noticeably bad condition but we also found a maze of gear combinations in the drive from feed roll to lap roll. Most persons take this drive for granted, give it a lick and a promise at grinding time and let it go. In our study we found too many worn studs, worn gear bores, bad teeth and other conditions which demanded improvement.

We also decided something must be done about that tin lap rest roll. After several conferences, suggestions, trials and a multitude of tests, our people decided to find out what diameter roll would give the lowest CV. We, therefore, set up a series of three rolls, one with a six-inch diameter roll, one with $\frac{1}{16}$-inch under, and a third with $\frac{1}{16}$-inch over. Full scale CV checks were run on each card and surprisingly the roll having a diameter of $5\frac{15}{16}$-inch proved to give the lowest CV.

To turn out rolls of such exact size for over 300 cards could be very expensive, but we decided to go ahead and do it. We cut our cost a great deal by buying good quality loom beam barrels, turning the journals down to correct size, then wrapping layers of drapery cloth tightly over the wood surface, cementing this on securely. The coated roll was then varnished, allowed to dry, and checked for exact size, then installed if approved. This was done over five years ago and I'm glad to say we haven't lost a roll yet. In the meantime a bad situation has been greatly improved.

Gear Eccentricity Tester

The quality control department may not always have the answer to your trouble, but they have no difficulty in spot-

*Presented at the Fall meeting of the Textile Quality Control Association, Clemson, S. C., September 8-9.

trouble where it exists. For instance, we had a very high non-uniformity on one of our four delivery drawing units. No matter what was done in the way of setting rolls, cleaning gears, lubrication and examination of its components, nothing we did for this frame did any good. We tried all the usual replacement of parts, swapping rolls from one frame to another but gained nothing.

This situation had been going on for some time when we got word about a gear eccentricity tester. We managed to secure one and with the aid of this device we were able to spot gears having any amount of eccentricity. Our very first project with this device was to pull off and examine every gear on the defective head. We were not surprised when we found at least two gears having more than .015 run out. We also found several gears having from .005 to .012 run out. In addition we found gears with egg-shaped bores, and loose bores. All gears having what we called T.I.R. (total indicated run-out) of more than .0035 were junked and replaced with gears of approved hardness and T.I.R.

We proceeded to go through our gear inventory and junk any gear not meeting approved specifications. Our purchasing department set up a program of supplying complete sets of gears for each drawing frame, calling in the old gears and issuing approved gears. We have not yet finished with this work but our gain is already apparent. This work now extends to any new machine purchased and we are applying this quality yardstick to every machine in our plant. This includes both old and newly purchased machines whose gears we pull off and check, along with steel rolls.

Flag Tags For Defective Units

Our quality control department has a very good method of calling defective machines to the attention of both mechanical and supervisory employees. A large colored tag is wired to the unit so that the tag can be seen from almost any part of the job. The tag plainly states that the machine is making sub-quality work and needs correction. The tag will stay on the machine until the defective condition has been corrected.

Let us say that a card has an out-of-standard non-uniformity. The quality control department finds the machine at fault and flags it with a colored tag wired to the coiler. The grinder and supervisor will go to work at once on this unit and do whatever work they deem necessary. After they have completed the work, they can ask quality control to make another test; or quality control will make a routine recheck next day. If the card proves to be all right then quality control will remove the tag and no further action will be taken. Should a recheck show continued sub-standard, then the tag stays on.

To further implement this tag routine, the assistant superintendent came up with a large blackboard divided as to first, second and third shift grinder sections. This board, hung in a conspicuous location in the card room, contains vertical rows of hooks under each grinder section, so that if the first shift on section two has a sub-standard machine on his job, then a large tag will be hung on section two, first shift. In this way all room personnel are aware of what is going on, supervision and management are both able to see at a glance what sections are in difficulty, and what progress is being made about needed improvements.

Up to the present time, we are using the blackboard device in our card room on cards only. We are also using it effectively on looms to show the looms failing to make first quality cloth. In this case the tag plainly shows the major cause of the defect. We follow a slight modification on this loom control plan in that we do not have a tag hung on the board for the first roll of seconds, but only for the second or third rolls made. The tag is marked with a large number showing how many successive rolls of second quality cloth have been taken from this particular loom.

A Chain Reaction

This pointing up of loom defects to weave room personnel aroused a desire on their part to get the word back to preparatory departments about their shortcomings. So now we have a blackboard in the slasher room where a colored tag is hung on the appropriate shift and machine having made a soft warp, bad selvage, hard size, or any other beam defect. This tag will hang on the board for one week.

In turn, the slasher people evinced a desire to get the word back to the warper hands for any warp coming up with bad work. The board was made up and hung in the warper room and any section beam giving trouble on the slashers is shown by slasher supervision to warper supervision on that shift. Bad beam reports are then issued to the quality control department where they are recorded and then passed along to the assistant superintendent whose responsibility includes the complete supervision of all blackboards. He alone may hang or remove a colored tag. Up to now we have no blackboards for picker, drawing, roving or spinning, but we feel the need will soon be evident for its introduction in these areas.

Tough Maintenance Schedule

Our picker situation offers another application of quality control technique. For years we had been working hard at a very tough maintenance schedule. Our C.V. was too high. "It must be lowered" was the word, and we worked at it as strenuously as possible. First, pickers were torn down, cleaned and reset. This we had been doing on a 16-week basis; now we have changed to a 10-week schedule. The pickers and auxiliary machines were divided among the three fixers on the job and each shift was given definite units, the care of which was committed to one particular fixer. All speeds were leveled out and standardized. Pulleys were changed to give standardized speeds on beaters, fans and all other components.

Calender Rolls Out Of Balance

A number of changes of a plain mechanical nature were made to eliminate variables. For instance, we sent out laps to be checked on a Spectroscope, and were told—among other things—that our nine-inch fluted calender rolls were out of balance. Strangely enough on our 10 pickers and 20 calender rolls, at least 15 were out of balance, some by as much as 18 pounds. We removed the large 24-inch pulleys driven by the belt from the front beater and found them to be out of round, eccentric and having an oversize bore in every instance. This was an error in application which had been going on for years. It put us in the situation whereby every time a pulley was put on the shaft the mere act of tightening the set screw would make it eccentric, and put a pattern in the lap. Well, we did a real job of

scouring, replacing worn parts, checking bearings and installing ball bearings, wherever possible in our evenner motion. All this and still not too much over-all gain. Our C.V. was still not good enough.

Picker Lap Variations

Our next approach was to hang a chart on each picker and have the lap weights of every picker marked as a dot on its own chart. Supervision at all levels could check these graphs at a glance and see which pickers were making non-standard laps. This helped in only a minor way. We soon found pickers at the tail end of the feed line to be "hungry" for cotton all the time, while pickers being served first by the rake distributor were usually over-stuffed. These over-stuffed picker laps generally weighed too much and the tail end picker lap generally weighed too little. To overcome this trouble the picker operative would have to continue readjusting the evenner motion turnbuckle. The feed from the opener room was carefully regulated to give a steadier, more uniform stock delivery. The amount of time the back end of the picker was standing idle was checked and reset to allow only a minimum of standing. This helped but did not lick our trouble. The business of excessive turnbuckle readjustment was just not right.

Our quality control department has now worked out an improved picker lap weight chart which clearly shows the standard lap weight and also an upper and lower control line. Our picker room people will not now make an evenner turnbuckle adjustment until the lap weight has clearly gone beyond the limit or unless five consecutive laps run in either light or heavy areas. An overweight lap would demand correction automatically, but under a statistical quality control frequency distribution chart 96% of the laps should fall into the "within control" area and would need no turnbuckle adjustment. Where the tender is making his error—and where we are losing on C.V.—is his too frequent adjustment every time the lap weight starts inching up or down. By continuously altering the feed he is also continuously increasing the range of our lap variation—which is exactly wrong.

Our new system is not far enough along at this time to indicate whether or not this will give us our objective. We look for a definite improvement, but at the same time we have made plans towards a better overflow control set-up on stock from the opening room. To further minimize the rake distributor from overfeeding the primary picker units, and starving the secondary units, we are doing away with our gauge box feed and going to a hopper feed. This will be fed by a pair of spiked rolls mounted in the feed chute, which rotate and feed cotton when called on by the actuating device in the hopper, and stand idle at all other times. In this way no overfeeding or packing is obtained and all pickers in a given range will be uniformly fed. We also feel that a hopper feed is a better feed than our present gauge box. Our quality control department confirms this by actual tests.

Quality Wins Out

We have 335 cotton cards at Joanna, as well as complementary drawing and combing operations. Keeping up with the percent uniformity of each unit of these operations is most desirable, yet to do so using ordinary testing pro-

(Continued on Page 80)

With Dixon's all-new CAVALLA-ROTH* DRAFTING

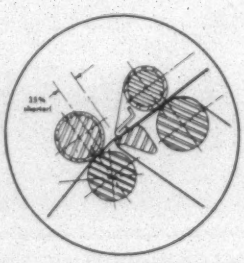
*Pat. Applied for.

. . . the pay-off is in the package!

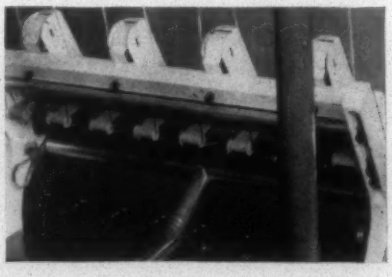
Cavalla-Roth out-features them all. Into this advanced spinning drafting changeover, Dixon engineers have built advantages not obtainable even on the newest spinning frames. And each of these design firsts is aimed at giving you one thing: top quality yarn at lowest cost per pound.

Cavalla-Roth gives full fiber control –

Specially shaped apron nose bar and tensioned lower apron reduce by 25% the uncontrolled space between middle and front rolls. Here, at the critical point in the drafting process, Dixon's unique system controls the fibers, assuring new strength and evenness in the yarn you produce.

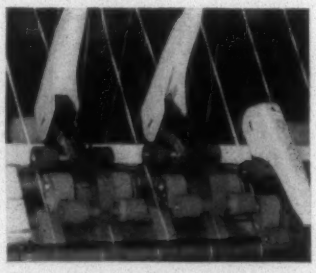


Cavalla-Roth sets a new high in LOW MAINTENANCE –



This is the only NO OIL changeover available. All bearings — both for top rolls and bottom steel rolls — are either of Dixon's exclusive "lube-less" RULON or of the "life-lubed" anti-friction type. Cavalla-Roth's clean Tension Weighting system cuts out dozens of lint-catching surfaces . . . there are absolutely no springs, weights, stirrups or levers below the steel rolls to collect lint and up cleaning costs. And of course, improved fiber control reduces the problems and costs of ends down. Actual mill experience proves this new system is a real maintenance miser.

Cavalla-Roth Weighting – PERMANENT YET INFINITELY VARIABLE . . . ACCURATELY MEASURABLE



The new Tension Weighting system permits positive and permanent setting of top roll weight within a 100 lb. range . . . and most important, allows for accurate measurement of this setting with Dixon's Tension Meter. There are no levers or springs to build up friction, lose adjustment, and vary weighting. The C-R top arm (automatic cam latching) simplifies spinners supervision by making possible roll examination or service without time consuming weight lifting or hand latching. Roll spreads can be adjusted for drafting up to 1 1/16" fibers in two zone drafting and up to 3 1/2" fibers in single zone drafting.

Cavalla-Roth gives APPLICATION FLEXIBILITY

Cavalla-Roth drafting can be tailored to meet your needs: 1) as a complete unit from roller beam up on 60°, 45° or 30° roll stands, 2) as a changeover, using the mill's middle and back steel rolls, 3) as a top roll changeover, using the mill's stands and steel rolls, or 4) as Cavalla-Roth P.C.O. . . . a partial changeover providing the advantages of better fiber control at a minimum cost per spindle.

For photos, engineering specifications, and costs of Cavalla-Roth, write:

Dixon Corporation • Bristol, Rhode Island

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Dixon

ENGINEERED SPINNING CHANGEOVERS SINCE 1876

How To Make The Textile Outlook Even Better

THE INDUSTRY MUST TAKE ACTION IN THOSE AREAS WHERE IT HAS THE POWER OF CORRECTIVE ACTION

By JACKSON E. SPEARS
Burlington Industries Inc., New York City*

THE outlook for the textile industry is good and its potentials are encouraging. Of course we have problems, some of which are pretty difficult; and our efforts at finding satisfactory solutions have in many cases been very frustating. In order to determine the validity of my confidence in the future of the textile industry, let us examine major problem areas and current positions in connection with them.

Before going into the long range aspects of the industry, a few words should be said about the current position. Long range thinking is frequently distorted by temporary attitudes of satisfaction or gloom and a brief look at the current situation may help clear the air.

Period Of Relaxation

We are now in what is probably a temporary period of some relaxation from last year's fevered activity. Industry sales are probably currently running perhaps as much as 6% below the level of a year ago. Up to the minute operating schedules are probably off by about 10 to 12% from this time last year. The reason for the difference in these figures is the time lag which accompanies changing appetites for inventory accumulation or decumulation. Spot market prices are indicative of some concern. These data, by the way, are reasonably educated approximations because accurate figures are not available.

Why are we going through this period of adjustment? What may transpire and what ought we to be doing about it?

The answer to the first question is threefold:

(1) Continuing pressure of imports.
(2) Deterioration of the national economic health and future uncertainties.
(3) Some mild overproduction in relation to actual consumer off-take.

Which Problem To Tackle?

In seeking possible courses of action to improve our current situation, we must lay aside the import problem because it cannot be solved soon. Similarly, the national economic health is subject to affirmative action on our part to a very very minor degree. This then leaves us only the question of supply and demand in our industry as something over which we have the power of immediate corrective action.

It is well known that in a period of high forward sales, prices and profits are good—and the reverse is the case when markets feed on inventories. In the latter case, confidence is lacking and weak sellers aggravate the situation. If nothing is done about it, the painful course of the disease must be run until overcorrections have injected themselves into the structure in sufficient quantities to change the broad trend.

An enlightened textile industry need not abjectly wait for nature to take its relentless course. Although statistical data are late and inadequate, there are enough so that when the known figures are examined in relation to the moods of the market place, we have only ourselves to blame if we refuse to make the obvious moves so patently available. It is paradoxical that the solution is so simple in our complex industry. It is management of production, not in terms of orders on the books, some of which may have been placed in moments of excessive enthusiasm, but in terms of consumer off-takes.

To sum up the near-by outlook. The market is in a period of hesitancy in large measure attributable to lack of adequate national vigor. Mill managements should take obviously desirable steps in the direction of adjusting operating schedules *immediately* to true market needs. Happily, some major moves in this direction have been made. If generally pursued such actions and attitudes will reflect themselves in realization of adequate prices and satisfactory profits and much improved job security for employees.

Long Range Problems

With this mildly bearish look at the near term outlook, let us now turn to an examination of some of our long range problems and some suggested solutions.

To try to simplify our approach, I want to divide our problems into the following broad categories:

(1) Problems and solutions in the field of political action.
(2) Problems and solutions within the scope of managerial decision.
(3) Some of the attainable goals that appear within reach.
(4) Some of the inherent strengths from which we can build.

Political Action

Let's start in the field of political action, both because the subject is so timely and because the suggested activities are easy to define. Here are the points on which we must concentrate our attention:

(1) Imports.
(2) Depreciation allowances.
(3) Two-price cotton.
(4) Possible future restrictive legislation.

The import problem has been so widely discussed that we need not dwell on it now except insofar as immediate opportunities for action should be emphasized. Those who seek political office are now in their greatest time of easy accessibility. We need men who understand our industrial economy in *all* elective offices. And this qualification should transcend party affiliations when determining contributions

*Presented at the Annual Convention of the Combed Yarn Spinners Association, Sea Island, Ga., September 8-9.

and support at the polls. We want men in national and state elective offices who are not going to stint the growth of American job opportunities by unrealistic handling of legislative and administrative matters affecting the industry of our nation.

Laws and regulations adopted by the next Congress and administered by the next Administration are undoubtedly going to affect our operations. Sympathetic and understanding office-holders are essential. We must do our best to see to it that the best men are elected to office at every level. And the time to do this job is right now. Let's keep our eyes on our targets and not be misled by campaign oratory!

In the field of agricultural legislation we have a joint problem with the farmers and everybody else in the cotton industry in maintaining the present move away from two-price cotton to a one-price system which functions in free marketing channels. We have at long last started down the right road and we must see to it that we continue to stay on that road.

Present tax regulations concerning depreciation allowances were designed in 1942 as a way of raising revenue and fall far short of current realities. Obsolescence is the important thing and the laws should encourage constant and aggressive modernization through permitting write-offs of new machinery comfortably within the expected use-life. We must get rid of Bulletin F. Here is another example of the need for political action—and also an example where our foreign competitors have another politically-created advantage over us.

Problems Within The Industry

Outside of the field of governmental influence on our destiny, there are many problems within the area of managerial determination. Here our future is in our own hands. Some of the main points deserving attention here are:

(1) Quality problems.

Myers, Gamble, Barnett, Hinds, Bell, Cameron

NEWLY ELECTED officers of the Combed Yarn Spinners Association include J. L. Barnett, South Fork Mfg. Co., Belmont, N. C., president; A. G. Myers Jr., Textiles Inc., Gastonia, first vice-president; J. J. Hinds, Botany Cottons Inc., Gastonia, second vice-president; M. T. Cameron, A. M. Smyre Mfg. Co., Gastonia, treasurer; and Shannon M. Gamble, executive secretary. Also elected were four new directors: Brown Mahon, J. P. Stevens & Co., Greenville, S. C.; George W. Stowe Jr., Crescent Spinning Co., Belmont; Earl T. Groves, Groves Thread Co., Gastonia; and Coit M. Robinson Jr., United Spinners Corp., Lowell, N. C.

(2) Multitudinous fibers and finishes.

(3) Industry statistics and production management.

(4) Recruitment.

We are already doing something about these things, but we need to do more and we need to do it faster.

In the field of quality, changing methods of growing and ginning cotton have produced costly and troublesome problems. Many people both in and out of government have concerned themselves with finding answers here. It is certainly appropriate at this point to commend the fine work being done by the National Cotton Council—by far the most effective private agency working on cotton quality problems. It has also been a source of considerable support in the political arena. Since only 57% of the spinning industry is supporting the council, it is simple to deduct that 43% of the industry is either unmindful of the importance of the work of the council or is deliberately shirking a responsibility. Those managements to whom this applies should be prodded into co-operation.

Development of all the host of man-made fibers and new finishes has opened the way to endless fabric development but their very number has created many complications in manufacturing and merchandising. Our spinning plants can't run them all and our customers have been needlessly confused by conflicting claims. It is the responsibility of the textile mill products industry to use these tools wisely. New fibers should be used only when they in fact improve the value of our products for our consumers. Any mill that uses a fiber as a gimmick for an attempted short range profit is doing the industry a disservice.

Keeping Tabs On Production

Earlier I mentioned the need for immediate action in the near term outlook in the field of production management. Prompt and accurate action here is made difficult by the inadequacy of data on pipeline inventory conditions. If we can control satellites a million miles away by remote computer systems, we certainly ought to be able to arrange a proper surveillance of inventory supplies and maintain constant profit potentials in a steady market. Disastrous cycles and concomitant inventory losses can be averted if we develop proper data and needed bench marks for managerial guidance. We need more data and we need it faster. And we need to realize the importance of sound individual decisions. We must abandon outmoded ideas of individuality for its own sake. Here again progress is being made, but there is not that sense of urgency the problem justifies.

We have recently been troubled by our failure to attract young men into our industry, both qualitatively and quantitatively. This is at least in part indicated by textile school enrollment which has dropped from 3,445 in 1949 to 1,697 in 1959. Certainly we must correct such a trend. Manpower is the greatest asset of any industry and our awareness of this problem is in itself encouraging. Some steps have been taken and others are in prospect to reverse these trends. Such steps include:

(1) Review of textile school curricula.

(2) Encouragement of bright young men in high schools to plan textiles as a career.

(3) More scholarships as a tangible inducement.

(4) Improvement in public relations postures—particularly at local levels.

As mentioned, industry leaders are working on these points and if we do our job well, we ought to strengthen

our position considerably. The simple fact is that the opportunity for rapid advancement is greater in our industry than in almost any other—and this point must be brought home. Our strong points deserve publicity as well as our problems. Obviously, we need a stable industry with satisfactory opportunities for financial betterment in order to get the men we want. This goal is attainable.

There Is A Bright Side

Now let's turn to some of the strengths of our position as we look ahead. A list of such factors would include:

(1) Significant relative improvement in textiles values.
(2) Flexibility.
(3) Population growth by age groups.
(4) Improving management techniques.

The fact that textile products continue to show such important quality improvements without rising prices is certainly an achievement of which we can all be justly proud. But more than that—it means we are operating from a sound basis of good values and, subject only to responsive management of production schedules, we are working from a price level that has only one way to go, and that is up.

A major ingredient of success in any basic industry is the ability to take good care of the consumer. Our customers certainly have every reason to be satisfied with our service to them. The supporting figures bear repeating. All manufactured articles are 28% above the 1947-49 level while textiles are 7% below that level, accompanied by vastly improved quality—more durable—better styled, etc., etc.

The new finishes, the new fibers and other developments have given us almost limitless tools with which to expand our profit potentials through greater styling efforts in our relentless goal of satisfying the whims of the consumer. Machinery improvements have been accompanied by a pronounced increase in the multi-fiber pattern of the industry. These developments have provided the industry with an amazing flexibility. We can spread our risks by shifting quickly as market appetites shift and at the same time do a better job of creative selling.

It is well known that the textile industry has lost much in the industrial field, though most informed opinion today is to the effect that our competitive position here has probably stabilized at current levels. But most textiles go into apparel and an examination of our progress here is certainly germane.

The Textile Apparel Industry Is A Growth Industry

Consumer expenditures for clothing and shoes in 1947 amounted to $18.8 billion; in 1955 to $23.4 billion. Estimates for 1959 put this figure at about $28 billion. These are heady figures. The growth from 1955 to 1959 is 18.8% or well over 4% per year compared with a population growth of under 2% a year. Thus we come to the inescapable conclusion that, quite contrary to popular misconceptions, the textile apparel industry is a growth industry.

Now if we assume the general pattern will continue, and this certainly seems reasonable, we get further encouragement from an examination of expected population changes. Here the pattern is clear. During the decade ahead the population will rise by 19% but that portion of the population in the largest textile consuming age group (15 to 24) will rise by 50%. This is obviously *not* an estimate because they are alive right now.

Since we *have* been doing well in the apparel field, it is not difficult to find much cause for good hopes for our future in the dramatically rising potential now clearly foreseeable. We have some impressive reasons for expecting growth and steady profits for the textile mill products industry in the next decade.

Summing Up

Where then does this leave us in our review of the textile industry outlook?

(1) We are in a temporary position of market hesitancy with corrective actions being taken that should reverse the trend provided there is no further major deterioration in the national economic vigor.

(2) We have worked long, hard and apparently fruitlessly in the field of political action. All recognize that many of the major problems confronting the textile industry are government-induced and that corrections, therefore, lie in government action. Here we are moving ahead in our attack on the problem with all facets of the industry united in a common front. More and more industries are joining us in our efforts. For these reasons, and because of the importance of the attainment of our objectives, not only to the textile industry with its upward of two million employees, but to the total American economy, we are satisfied that in the end our efforts *must* meet with success—no matter how frustrating our attempts may have been up to the present moment. We are going to win this political fight because we have to and because it is in the best interest of our country and points the way to a growing America with expanding job opportunities for all.

(3) Mill managements are showing increased enlightenment in the fields of production, quality control, vig-

(Continued on Page 81)

Scholarship Honors Dawson

Dawson

A Claude C. Dawson Scholarship Fund has been established at the North Carolina State College School of Textiles in honor of the retired executive secretary of the Combed Yarn Spinners Association. The scholarship, announced at the association's 35th annual meeting September 8-9 at Sea Island, Ga., will be sponsored by participants in the C.Y.S.A. Quality Audit Program and administered by a committee composed of the faculty members of the School of Textiles.

In a progress report on the Quality Audit Program, Prof. D. S. Hamby told the convention that: (1) some 383,000 combed yarn spindles have contracted for the program since it was inaugurated last January 1; and (2) the program will be extended to carded yarn producers effective January 1, 1961.

American Thread Co. Plant Holds Open House

AS PART OF THE CITY'S CENTENNIAL CELEBRATION ATCO SHOWS OFF ITS TALLAPOOSA, GA., PLANT

ON September 2nd, 3rd and 4th the Town of Tallapoosa, Ga., marked its first hundred years with a centennial celebration. Many of the townsmen grew beards and there was a lot of searching in trunks and attics for old costumes. Events during the celebration included a parade, a special football game, a costume ball, a pageant, a dress parade, a beard growing contest and a speech by Senator Herman Talmadge.

Tallapoosa's biggest employer, the American Thread Co., joined in the festivities with an open house at its plant. The centennial coincided with the completion of a $1.6 million modernization program at the mill. Although ATCO has only been in Tallapoosa 16 years, it plays an important part in the business and civic life of the town, providing 440 jobs.

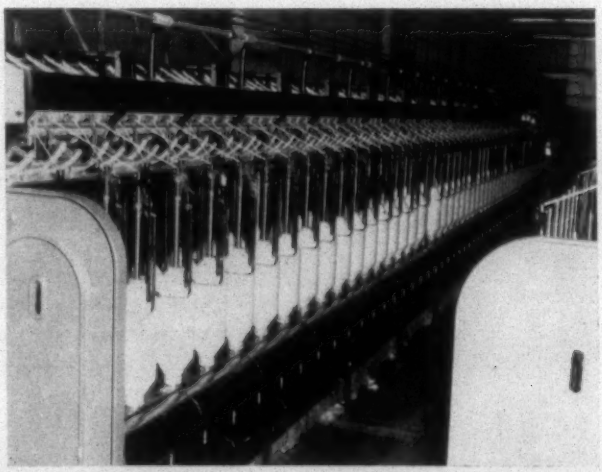
The plant, acquired by American Thread in 1944, was built by the Tallapoosa Mfg. Co. in 1907. The mill was almost doubled in size in 1948 and was again enlarged this year by the addition of a 16,500-square-foot, two-story wing. The mill now contains 247,500 square feet of floor area and has 62,282 cotton spindles.

A new product—Dacron-cotton blend yarn for the weaving trade—has been added. Additional machinery, including a new picker and a new Barber-Colman automatic spooler, has been installed to process this blend.

Among other recent improvements at American Thread are 21 new Saco-Lowell Model 57 combers operating at 125 n.p.m. There are 20 new Saco-Lowell drawing frames, each with an output of 330 to 360 f.p.m. Eight new Saco-Lowell roving frames, producing 13½x7-inch packages, have Pneumastop automatic stop motion and signal systems. Ten of the older Platt roving frames also have been equipped with Pneumastop.

The biggest machinery installation has been in the spinning department. Here 60 new Whitin Piedmont spinning frames have been installed. The frames have 312 spindles each and are equipped with Pneumafil waste recovery sys-

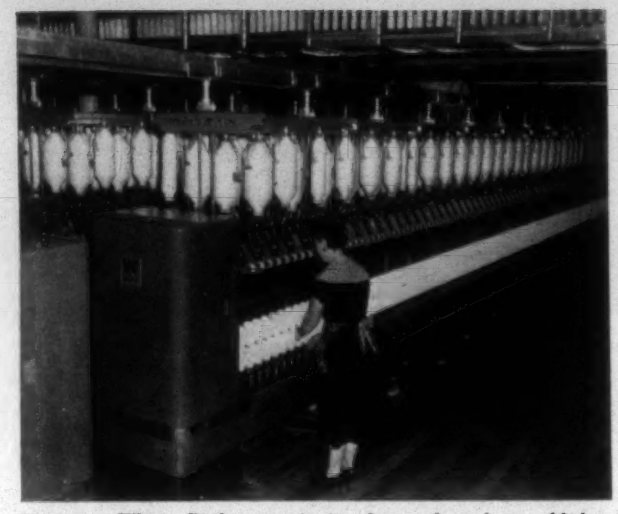
New Saco-Lowell drawing frames operate at twice the speed of those they replaced.



Eight new Saco-Lowell roving frames have been installed, producing a 13½x7-inch package.

Twenty-one new Saco-Lowell Model 57 combers operate at 125 n.p.m.

Many of the plant's H&B spinning frames have been modernized with Whitin's STA changeover and anti-friction spindles.



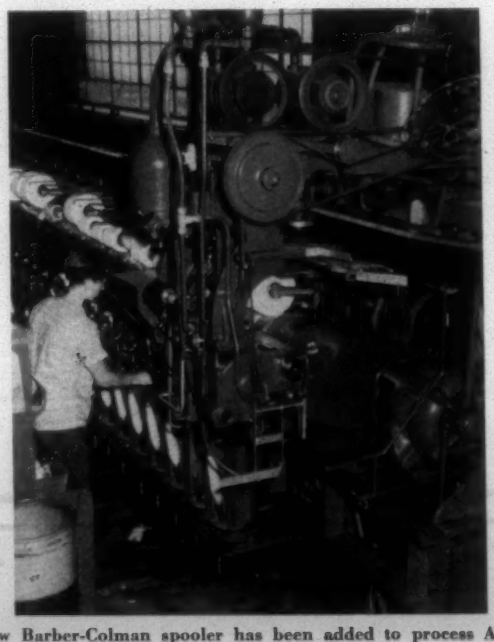
Sixty new Whitin Piedmont spinning frames have been added as part of the spinning modernization. This is one of the largest such installations to date.

tems. They also have Casablanca creels and Parks-Cramer overhead cleaners.

An equal number of H&B spinning frames have been modernized with Whitin STA roll systems, anti-friction spindles, separators, overhead cleaners and Bahnson Collecto-Vac waste recovery systems. A new air changing system has also been installed in the spinning department, and spinning capacity has been increased 25% through these improvements—and all within the same amount of floor space.

A testing laboratory has been fitted with all the latest equipment to test the mill's products to assure uniformity and quality.

ATCO's production at Tallapoosa consists of stitching threads for the garment trade, industrial and domestic sewing thread, yarn for insulated electric cables, and Dacron-cotton yarns for weaving. Most of the mill's output is shipped to the company's Sevier, N. C., plant for finishing and final packaging.



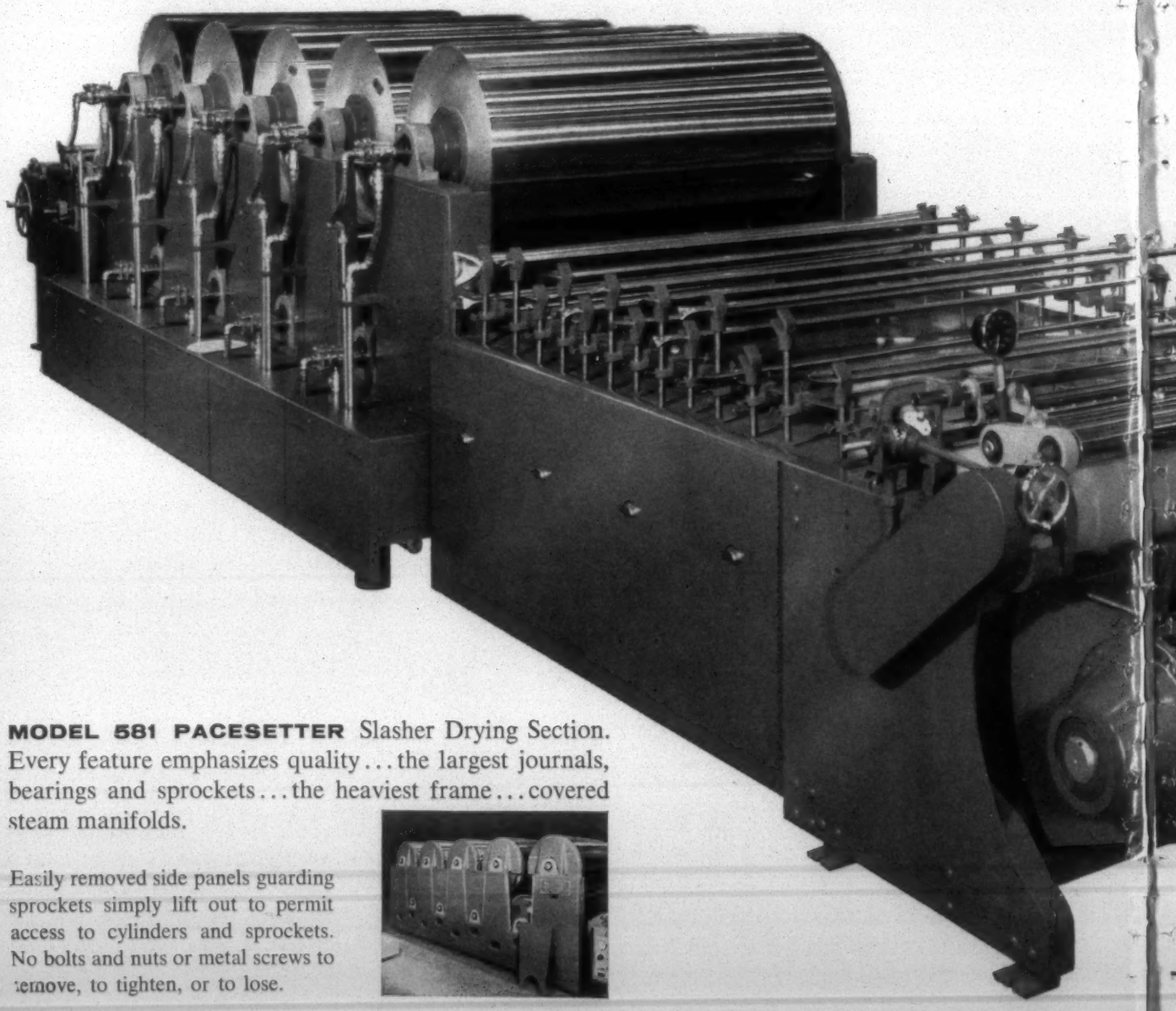
A new Barber-Colman spooler has been added to process ATCO's new Dacron-cotton blend.

THE SPRINGS COTTON MILLS, Fort Mill, South Carolina. Six plants of Springs Cotton Mills run 29 West Point Slashers.

DUNDEE MILLS, INC., Griffin, Georgia. Three West Point Foundry Slashers replaced seven old slashers.

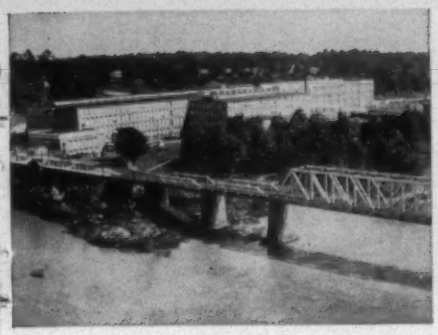
LYDIA COTTON MILLS, Clinton, South Carolina. Two West Point Foundry Slashers replaced four old slashers.

These six pace-setting textile mills are all...



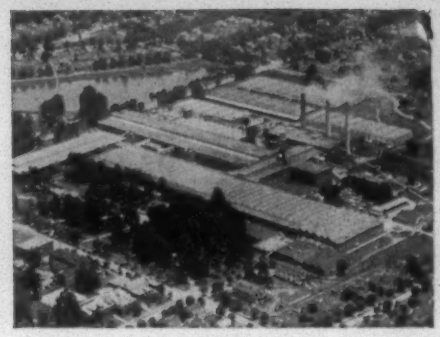
MODEL 581 PACESETTER Slasher Drying Section. Every feature emphasizes quality... the largest journals, bearings and sprockets... the heaviest frame... covered steam manifolds.

Easily removed side panels guarding sprockets simply lift out to permit access to cylinders and sprockets. No bolts and nuts or metal screws to remove, to tighten, or to lose.



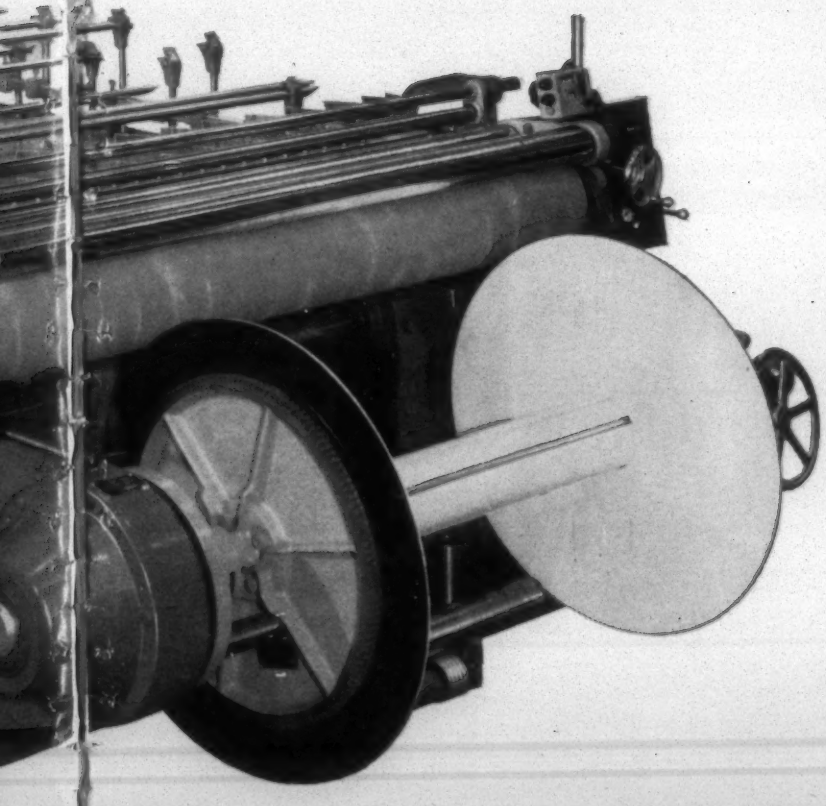
TALLASSEE MILLS of the Mount Vernon Mills, Inc., Tallassee, Alabama. Six West Point Slashers replaced nine old slashers.

PACOLET MANUFACTURING COMPANY, New Holland, Georgia. Five West Point Foundry Multi-Cylinder Slashers in this mill.



CONE MILLS CORPORATION, White Oak Plant, Greensboro, N. C. Five West Point Multi-Cylinder Slashers replace 16 old slashers.

100% WEST POINT



ALL OF THE SIX leading textile mills pictured above have 100% West Point Foundry slasher installations.

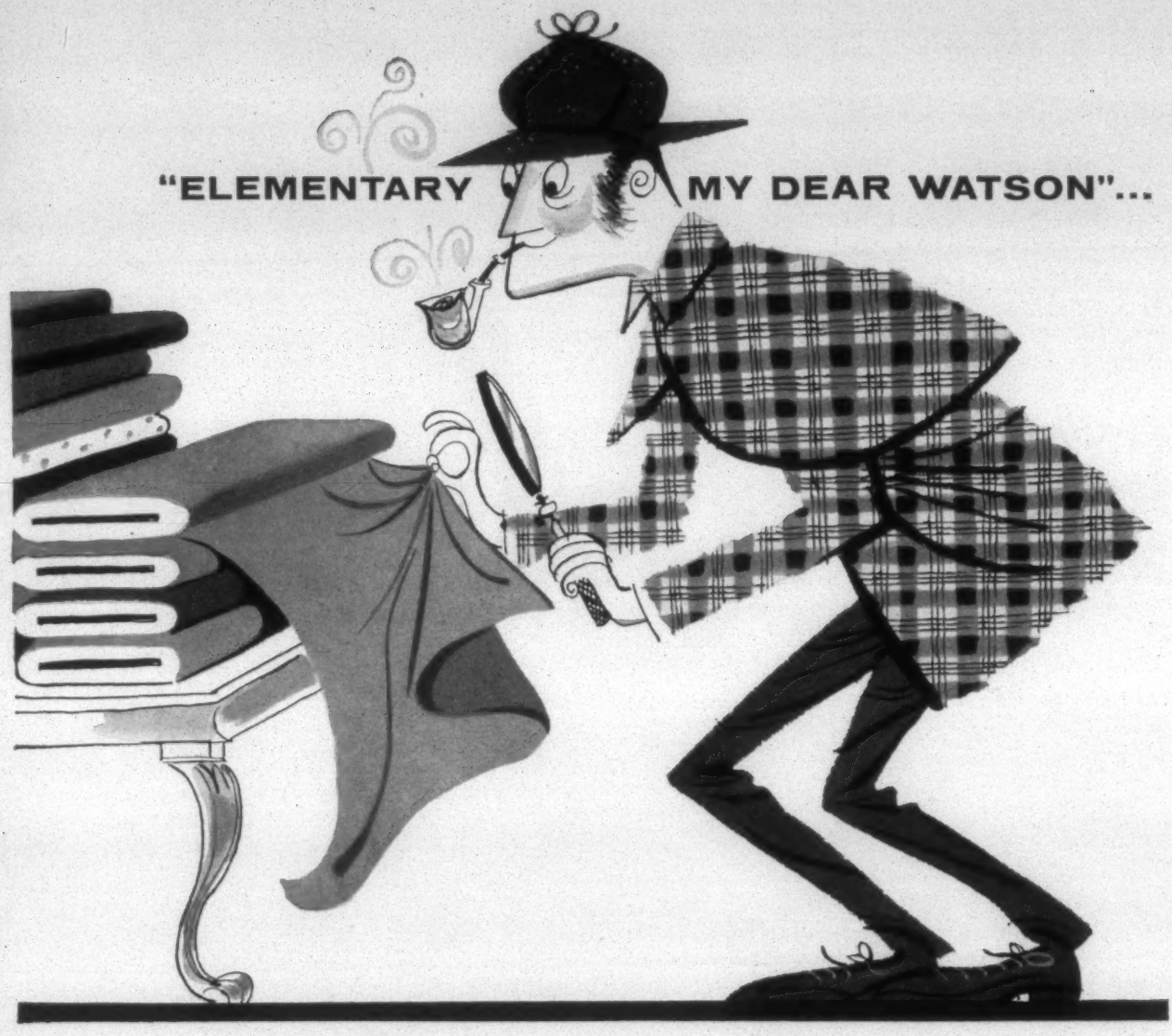
ALL OF THE SIX are now slashing their warps on fewer slashers in less slasher hours, realizing lower production costs, savings in floor space, uniform quality and reduced maintenance. In the last four years alone textile mills have installed more than 200 West Point Foundry Multi-Cylinder Slashers.

The fact that these textile leaders have chosen high-capacity West Point slashers is proof positive of the soundness of this investment.

Whether yours is a complete slasher installation or modernization of present equipment, call West Point Foundry . . . *specialists in slashers.*

WEST POINT Foundry & Machine Company

WEST POINT, GEORGIA



CLINTON Corn Starches give a more uniform application of size

Clinton Corn Starches provide uniform application of size and increased starch penetration for smooth warps and minimum shedding at the slasher and loom. See your Clinton salesman today.

CLINTON TECHNICAL SERVICE is freely available upon request.

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CLINTON CORN PROCESSING COMPANY, CLINTON, IOWA

The Human Element In Quality Control

QUALITY PRODUCTION IS NOT ACCOMPLISHED IN SPITE OF BUT BECAUSE OF HUMAN BEINGS

By **DONALD M. BURGER**
Collins & Aikman Corp., New York City*

SOMEWHERE I have read or heard that 85% of all quality problems revolve around human failure. Someone let something get by. Result—a second. Just as simple as that. Eighty-five of every 100 defects result from someone doing something wrong.

The controllable items are in hand. The machinery is functioning well; materials are up to standard. The 15% figure, I suppose, tells us this. The 85% figure being valid, the path that management must take to overcome its quality problems is clear: and, certainly, one of the ways that quality control people must use in guiding management is evident—the human being.

There is a personnel axiom that the overwhelming majority of employees want to produce efficiently; want to do the right thing; want to make quality goods. Ask them and they will tell you so. When you get back to your plants, go out and talk to a dozen or so at random. I can guarantee the answer. "What kind of a foolish question is that!" they'll say. "Of course, I want to do a good job."

How often have you run into employees deliberately and maliciously ruining goods? I'm certain it is a rare, rare exception if ever you have. Yet, these are the only ones who can say they don't want to do a good job.

Unfortunately, many, many employees do not produce well; do not give a company quality effort. If the above axiom is true, then we have arrived at the why. Why are there so many employees indifferent to quality. Simply because they have not had the proper motivation. Quality motivation results only from adequate communications: intelligence, if you will. Human beings are that one animal on earth with the ability to reason. They need something more than "rote" training, repetitious as so much of our work is. There must be a reason for all action. There must be proper human development. Here is management's primary task.

"I Didn't Know"

Have you ever talked to an employee, disgruntled because of, to him, unfair discipline, and be told, "I didn't know I wasn't supposed to—"? I remember an instance in a plant where ordinarily minor grease spots were unimportant since the cloth got a thorough scouring. Once in a while though we ran a critical fabric requiring scrupulous cleanliness. Fixers and weavers were, generally, not too careful and if their hands had some grease on them it didn't matter. Periodically, though, a supervisor would fail to tell his employees about the clean cloth. You know the result. A little simple instance. Yes, but somewhere communications failed—someone did not supply the reason. Tell people what's expected of them and why. This is the means of motivation.

The most critical time in this motivation process is when the worker first comes on the job, the probationary period. Here management has the golden opportunity of making this new worker a fundamentally sound individual, an efficient producer of quality goods. By communications; by telling him the rules; telling him why; telling him of the results; telling him again; telling, telling, telling, teaching.

Any supervisor worth his salt spends abnormal amounts of time with the new employee, either personally or through delegation. The result cannot help but be a worker knowledgeable in quality. Time and time again I have seen new employees quit, merely because a supervisor was too busy to spend sufficient time with him. Just recently I had a new employee tell me he left because the job was too easy. There was no challenge. No one had bothered to talk to him, although an interested supervisor could have developed a potentially high grade employee. Time and time again I have seen a new employee rated as poor on quality when this rating by his supervisor is a flagrant self-criticism.

Now I'm not so naive as to believe that every employee hired can be made into an outstanding quality producer Some few must fall by the wayside for varying reasons. Many will merely be passable. But those most successful supervisors do not achieve their excellence by the mere chance that superior employees were assigned to them in the first place. Their people were made. They were taught.

And thus it goes through the entire cycle of worker's experience. By having a constant, positive pressure on him, he maintains high quality standards. Tell him in advance of quality requirements; tell him why; follow up to assure he is working properly; compliment or criticize for work done. These are basic tools of leadership—of good management. Only through them will that positive motivation be achieved and quality standards maintained.

Inherent Negative Approach

I suppose the one thing that has disturbed me most in this whole area is the inherent negative approach to the problem. The very nature of your measurements (and this has to be)—seconds, waste, etc., have within them a negative implication. You are finding out what is wrong.

And, as a result, how often have you seen the mill management passive about quality until the seconds report gets out of line? Then the panic button is pushed. The offending supervisors are called on the carpet, with instructions to fire or lay off the first person who "does it again." Everyone spends a lot of time at the inspection frame. Hurried instructions are passed around the mill. Gradually the percent comes down and everyone settles back into that comfortable "well we took care of that" attitude.

But what about the human beings in the meantime? Again, how often have you seen a good, loyal employee laid off or fired because he happened to be that "first per-

*Presented at the Fall meeting of the Textile Quality Control Association, Clemson, S. C., September 8-9.

son" to offend under the sudden, inflexible and arbitrary order to "straighten out the department." He got caught in a web and the supervisor has to tell him, "I'm sorry but I can't make any exceptions. I know you've always done a good job but—." How can this employee help but feel let down, frustrated or even bitter, after all the good and honest work he's done? He is laid off when, as a result of circumscribing time, much poorer producers are allowed to work on. What about the human being affected and his sense of equity here? What about the morale of others around him? Do you suppose they are helped in their general attitude?

Naturally there are times when a general tightening on quality must be made. Of course there are occasions when teeth must be put into orders. But how much better if all of this is just not an occasional shot in the blue, but rather a positive, continuing and dynamic approach to all employees and their requirement to produce only first quality goods.

Importance Of Morale

Let me dwell on morale for a minute.

Show me a department where there is confusion, lack of a sense of fair play, lack of respect for the individual, a lack of respect for authority, and I will show you a department with poor morale. In consequence, show me poor morale and I'll show you poor quality. Morale is such an ephemeral thing. Up and down. Now you see it—now you don't. A myriad of little things continually affecting human beings and their attitudes.

It's too hot; it's too cold; the work is spread out too far; lay-offs; unfair discipline; favoritism; election year question marks; the boss is in a bad mood; he's down; he won't go to bat for us; my pay's too low; I can't get ahead; I need to be on a different shift; the kids are sick; bills to pay; my wife's running around; the rumor that the mill is moving; the rest rooms are dirty; a serious accident in the plant; the warps have been bad and no one cares; the cards aren't being oiled; this is "lousy" filling; not enough room in the parking lot; I can't talk to anyone about my problems.

On and on and on. Then every once in a while you get a strange combination of these circumstances and, boom, your morale goes to pot and with it your quality.

In this area, have you ever charted the effect of lay-off and slow production schedules on quality? I think of an actual case. For years our company had a large, top making, Bradford spinning operation, whose reputation for quality tops and yarns was excellent. Gradually the requirements for this product changed and the productive capacity of the mill grew to be too great for our needs. With hundreds of long service employees on the payroll, it came to be a soul-searching dilemma as to what to do. Cut back realistically or share the work, hoping for new and improved markets?

The decision, not consciously made, I think, was the latter. You can't let those old timers go. Things will get better. For a period of three or four years a great period of uncertainty set in. The effect on the individual went like this: Will there be work? Will I get three or five days this week? Somone is getting more time than I am. My unemployment compensation is running out. Should I look elsewhere for work? What about my pension?

What happened to morale under these conditions? Obviously it deteriorated and quality became a major headache. Yet these were the same people that only short years before did such an excellent job.

An exaggerated case? Yes. But to a lesser degree, all problems of morale affect quality.

Morale is not a back slapping; bright, shining faces; a big bowl of cherries thing. Anyone who was in the military service knows the best outfits came only when the command —the management, you might say—had developed the necessary leadership and, as a result, unity of purpose. And this with a group of heterogeneous human beings; people from all walks and strata of life. The best morale was usually when the going got rough, when there was a challenging objective. Thus it is in industrial management. Give a group of employees a special, meaningful job and they will break their backs to accomplish it. In a larger sense, everyday production must be made meaningful. Order. Knowing what to do, and when to do it. Leadership. Purpose. These are the things that make human beings respond properly. Here are the ingredients for good morale. Here is quality production—quality control.

Sense Of Belonging

Fundamental to what we have been saying is industry's great problem of creating within the average employee a sense of belonging to and identity with the "impersonal" organization for which he works. The corporation. The days of the artisan and craftsman who created finished, merchandisable goods by their own over-all skills have largely disappeared. In their stead have come the times of the industrial worker, tending an unceasing machine, repeating thousands of times over a single job. How can this man be made to feel responsible for something he never sees—a dress, a suit, some upholstery in someone's living room?

This, by the way, is the secret of the trade unions' success. They thrive on the promise that they have more interest in the individual worker than the company for which he works. They give a sense of belonging, of identity to the individual.

That industry can overcome this problem is apparent by the great bulk of companies who actually have. Their success in this field was not gained by a superficial acknowledgment of the fact. By having a Family Day once a year, or an annual Christmas Party. Desirable as these things are, it goes much deeper. They provide the means whereby the dignity of the individual can be maintained. By decent wages and working conditions; by opportunity for advancement; by a certain sense of security; by respect and recognition.

This is a quality concern. These, too, are elements of good quality.

This all sounds good, you say. But what has this to do with me, a quality control man? This is a line management responsibility. You're talking with your head in the clouds, like every other personnel man I've ever heard.

Well, just this. Recently I read an article by Mr. A. V. Feigenbaum, quality control man for General Electric. In it he made a plea for "Total Quality Control." Quality control is more than inspection and statistics, he says. From the product design, initially, into the hands of the customer, finally—quality control all the way. To my simple way of thinking, this sounds very right, especially, if I may add, that in this total productive process, it is recognized that it is the human being for whom and by whom it is all accomplished.

Therefore, I say to you, as quality control people, you must show tremendous concern for the development of the

human element in all of its phases. That you recognize this in part, at least, is shown by your support of quality contests, poster campaigns, employee letters and so forth. Now all of this is good, but they are only the frills that dress up the fundamental fact. Quality is so close to the core of every undertaking that it can't be separated from total management. Total quality control is certainly an apt phrase and it includes basic control of the human being. The great diversification of our staff functions often causes us to lose sight of the elementary interrelation of all of our jobs.

For example: How often have we made clerks out of our supervisors? Flooding them with so much paper work and so many reports that we don't allow them to perform their primary function—organizing and supervising their employees. This is a fault of all of us. We become so enamored with the importance of our own function that our perspective is distorted. We see only personnel or quality control or industrial engineering. As a result, we demand this and demand that until our line supervisors are staggering under a load of possibly desirable, but often unessential detail.

Therefore, as a result of this basic interrelationship, you must constantly assess the quality of the human being as well as the goods he makes. Are proper people being assigned to work—as they affect you? Is their educational level proper? Could women be more effective on this job? What about safety and housekeeping? Are the piece rates adequate? Would incentive help or hinder this operation? What about lighting and training? Is the pay structure adverse? And yes, even, is the supervision adequate? This is dangerous ground for a quality control man, to be true. But, nevertheless, it is just as important to your goal as your statistical measurements.

Now I don't say you must be industrial engineers, or personnel managers, etc., all rolled up in one. You can't be concerned with all the techniques of obtaining and maintaining good human relations. But, I do say that of necessity you must be concerned that there are enough sufficiently well adjusted employees on the job to produce quality goods. You must continually advise your management of the areas where human failure is jeopardizing your objectives and constantly priming it to develop and maintain a satisfactory level of good skilled employees.

What we have been saying about the over-all production situation applies equally well in your quality control departments. I'm certain that one of your problems is obtaining a consistency of performance. Are your inspectors and lab technicians measuring the work by the same standards day after day? Are they doing this objectively? Lack of training and knowledge will certainly deny them this satisfaction. How easy, too, is it for poor morale to strain their ability to see things in a constant light.

Staff people are very often the poorest supervisors, caused primarily by their absorption in the technical aspects of their job to the exclusion of all else. This difficulty becomes acute where the department is large and the lack of human direction causes an overwhelming problem.

How many of you are thoroughly familiar with the policies of your company pertaining to human development? The personnel policies? I congratulate you if you are. If you are not, as so many staff people are not, I urge you to develop a sense and knowledge in this direction. It will pay off for you many fold. Skill in motivating people is one of your greatest assets. The performance of your department cannot help but be improved.

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A.A.T.C.C. National Convention Set Oct. 6-8

NEW FIBERS, NEW FABRICS AND NEW COLORS WILL BE HIGHLIGHTED AT THE TECHNICAL SESSIONS

AT the 1960 national convention of the American Association of Textile Chemists & Colorists, October 6-8, the accent will be the new in fibers, fabrics and color. The convention will be held at the Sheraton Hotel, Philadelphia, Pa. The Delaware Valley Section will act as host.

Color Television Presentation

One of the highlights of the convention will be a closed-circuit television program, live and in full color, called "Science and Craft in Color." The presentation will originate at the Philadelphia Textile Institute and will be carried over Eidophor closed-circuit television system. The program is being produced especially for the A.A.T.C.C. meeting by Ciba Co. The three speakers co-operating in this special presentation are: Dr. Jacques Wegmann of the Toms River Chemical Corp.; Dr. Herman Branson, head of the physics department at Howard University, Washington, D. C.; and Dr. Arthur Linksz, ophthalmologist and color vision expert from the Manhattan Eye & Ear Hospital, New York City.

Technical Program

The technical program will follow the same general format observed in previous years. It opens Thursday morning and is as follows:

Thursday morning: 9:00—"Dyeing and Finishing of New Cellulosic Fibers," a panel presentation by speakers from the fiber manufacturers and moderated by Dr. Walter J. Hamburger, Fabric Research Laboratories; 10:30—"Fabrics From Creslan Acrylic Fiber," H. C. Haller, American Cyanamid Co.; 11:00—"Continuous Dyeing on the Monforts Reactor in the Synthetic Dyehouse," Fred Fortress, Celanese Corp. of America; 11:30—"Dyeing and Finishing of Man-Made Fibers in a Cotton Finishing Plant," Heyward Simpson, Reeves Bros.; 12:00—Panel Discussion.

Thursday afternoon: 12:45—Awards luncheon; 2:00—Awards and acceptances; 2:30—"Improved Textile Properties From New Chemical Structures," by Arnold M. Sookne, Harris Research Laboratories, winner of the Olney Medal; 3:00—"Science and Craft in Color," a special closed-circuit color television presentation.

Friday morning: 9:00—"Acrilan, Acrilan 16 and Their Blends," Walter Stump, Chemstrand Corp.; 9:30—"Modern Continuous Dyeing Processes," Dr. Richard Kern, Sandoz Inc.; 10:00—"Rovana—Versatile New Yarn," C. R. Sheehan, Dow Chemical; 10:30—"Reducing the Felting Shrinkage of Wool," Fred H. Seiger, Rohm & Haas; 11:00—"Dyeing and Finishing Blends of Wool and the Man-Made Fibers," J. T. Wilson, Excelsior Mills No. 4; 11:30—"Fabric Development From a Practical Dyer's Viewpoint," J. E. Greer, Greensboro Finishing Co., Burlington Industries Inc.

Friday afternoon: 2:00—Intersectional contest.

Saturday morning: 9:00—"Dyeing With Vinyl-Sulfon Reactive Dyes," Dr. H. Luttringhaus, Carbic-Hoechst; 9:30—"Status of Nonwoven Fabrics in the Textile Trade," Dr. Howard E. Shearer, American Viscose Corp.; 10:00—"New Fibers From Du Pont," M. M. Christie, Du Pont; 10:30—"Recent Developments in the Dyeing of Verel Modacrylic Fiber," Robert J. Fortune, Tennessee Eastman Co.; 11:00—"New Color Measuring Instrument for Use by the Textile Industry," F. J. Rizzo, Quartermaster Research; 11:30—"The Textile Industry Looks Ahead," Miss Irene Blunt,

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AS in the past there will be an exhibit of equipment of interest to members of the association. The exhibit hours are: Thursday—12 noon to 9 p.m.; Friday— 10 a.m. to 6 p.m.; Saturday— 10 a.m. to 3 p.m.

Exhibitors and their booth numbers are as follows:

American Viscose Corp. Philadelphia, Pa.	27
Analytical Measurements Inc. Chatham, N. J.	10
Arnold, Hoffman & Co. Providence, R. I.	6
Atlas Electric Devices Co. Chicago, Ill.	42
Becco Chemical Division Food Machinery & Chemical Corp. Buffalo, N. Y.	21
Carbic-Hoechst Corp. New York, N. Y.	31
Celanese Corp. of America New York, N. Y.	11
The Chemstrand Corp. Decatur, Ala.	33
Ciba Co. Fair Lawn, N. J.	24
Daily News Record New York, N. Y.	1
Davidson & Hemmendinger Easton, Pa.	47
Diamond Crystal Salt Co. St. Clair, Mich.	8
Fisher Scientific Co. King of Prussia, Pa.	14
Gaston County Dyeing Machine Corp. Stanley, N. C.	35
Goodyear Tire & Rubber Co. Chemical Division Akron, Ohio	16
Howes Publishing Co. New York, N. Y.	5
International Salt Co. Clarks Summit, Pa.	43
Manufacturers Engineering & Equipment Corp. Hatboro, Pa.	44
Morningstar-Paisley Inc. New York, N. Y.	7
Morton Salt Co. Chicago, Ill.	4
Permachem Corp. New York, N. Y.	41
Putnam Chemical Corp. Beacon, N. Y.	19
Richmond Oil, Soap & Chemical Co. Philadelphia, Pa.	22
Refined Products Corp. Lyndhurst, N. J.	26
Rohm & Haas Co. Philadelphia, Pa.	2
Sandoz Inc. New York, N. Y.	15
Schuylkill Chemical Co. Philadelphia, Pa.	13
Test Fabrics Inc. New York, N. Y.	40
Textile Industries Atlanta, Ga.	20
Textile World New York, N. Y.	23
Arthur H. Thomas Co. Philadelphia, Pa.	3
Union Carbide Chemicals Co. Division of Union Carbide Corp. New York, N. Y.	29
Wallerstein Co. Staten Island, N. Y.	9

former executive director of the National Federation of Textiles and consultant for the American Cotton Manufacturers Institute.

Intersectional Contest

The five papers to be presented at the intersectional contest cover various aspects of the dyeing and finishing field.

The Delaware Valley Section will present "Concurrent Dyeing and Finishing of Cellulosic Fibers." The paper will deal with a process that has been developed for the continuous application of all of the presently available classes of cellulose-reactive dyes and a stabilizng resin finish to fabrics of cotton by drying and curing at accepted commercial speeds.

"A Study of Fluorochemicals in Finishing and Their Effect on Colors" will be presented by the Rhode Island Section. The purpose of the project was to study the compatibility of fluorocarbons with various finishing agents.

A study of the reactions involved in chlorine retention and chlorine damage in an attempt to determine their nature and extent and to establish mechanisms for the reactions was made by the Piedmont Section. The presentation is titled "Chemical Mechanisms in Chlorine Retention by Resin-Treated Cotton Fabrics."

The Northern New England Section will present "A Study in Union Dyeing," which discusses the problems involved in the union dyeing of blends of any two of the modern fiber classes in the same dyebath with the neutral dyeing 2:1 premetallized dyes.

"A Comparison of the Dyeing Characteristics of Desulfured and Undesulfured Rayon Staple" will be presented by the Southeastern Section. In this study of the relative dyeing characteristics of desulfured and undesulfured rayon staple, comparative dyeings were made wtih 69 fast-to-light direct dyestuffs. These dyed samples were evaluated for shade differences, light fastness and wash fastness.

Awards Luncheon

At the awards luncheon on Thursday, the Olney Award will be presented to Arnold M. Sookne, associate director of Harris Research Laboratories, Washington, D. C. Sookne's contributions include work on the relationship between molecular weight and various mechanical properties of cellulose acetate, development of methods of fiber evaluation based on single fiber properties, development of chemical processes for improved water-repellent fabrics, shrink-resistant wool, wash-and-wear cottons and basic chemical studies which helped clarify the electrophoretic properties of fibers.

Sookne

Other Activities

The annual banquet will be held on Saturday night at 7:00. The program will include the president's address and the customary association awards as well as entertainment by well-known television personalities.

The ladies' program will include a cocktail party on Thursday afternoon at 4:30 p.m. and a tour of Philadephia starting at 10 a.m. Friday morning. The tour will include a luncheon at the Cherry Hill Inn near Haddonfield, N. J.

A personnel service will be maintained for the purpose of introducing members to prospective employees.

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Stanley H. Frary, Superintendent of the King Philip Div. Plant D of Berkshire Hathaway, Inc., at Warren, Rhode Island, discusses yarn quality with Armstrong representative Guy Baer.

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The Loomfixer And His Job — Part Twenty-Two

THE SHUTTLE FEELER IS A COMPLEX MECHANISM BUT IT NEED NOT BE BAFFLING TO THE LOOMFIXER

By WILMER WESTBROOK

THE shuttle feeler is a complex mechanism that baffles many loomfixers—yet it is easy to set and adjust once its operation is understood.

Too many loomfixers use the trial-and-error method to set the shuttle feeler, This results in poor performance and poor shuttle protection.

The shuttle feeler can be set precisely by using a gage. The dimensions of the gage are determined by the model of loom and the width of the shuttle. The gage can be bought from the loom manufacturer or can be shop-made of wood or metal.

To set the feeler, disconnect the starting rod spring and loosen the two bolts that hold the feeler bracket to the loom side. Pull the lay forward until the latch finger touches the bunter.

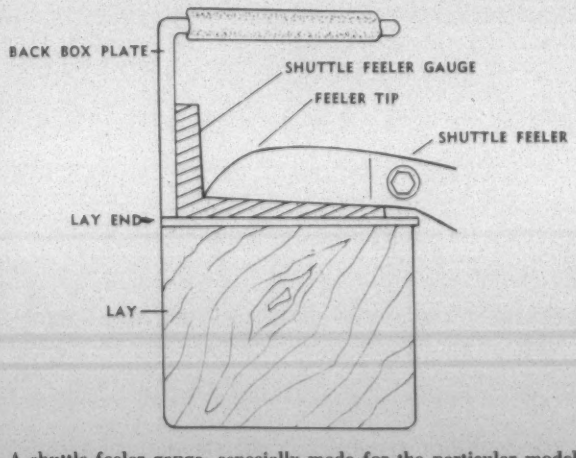
Place the feeler gage on the lay end and against the back box plate. With the bottom of the feeler resting on the flat top surface of the gage and the feeler tip touching the back of the gage, tighten the bracket bolts. Don't move the feeler tip up or down to get the correct setting—move the entire feeler.

The starting rod spring should be under very slight tension with the feeler at rest. The spring should hold the feeler firmly in its upright position and should hold it about ½-inch from the bottom when it is at rest. Don't have any more tension on the starting rod spring than is necessary to control the feeler.

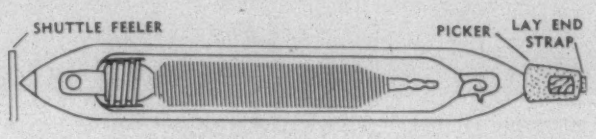
With the shuttle correctly boxed for a transfer and the feeler in upright position there should be about ⅛-inch clearance between the point of the shuttle spur and the shuttle feeler tip. Correct clearance can be obtained by removing the tip from the feeler and filing the lugs on the inside surface of the tip.

Examine the feeler tip to see if the shuttle spur has been striking it. If it is rough or worn, get a new tip or file a new face on the old one.

Pull the lay forward until the latch finger almost touches the bunter. Set the latch finger so that it engages the bunter squarely. Don't have it set so that it slides up or down after it strikes the bunter.



A shuttle feeler gauge, especially made for the particular model of loom and width of shuttle should be used to set the feeler.



A check of the clearance between the shuttle feeler tip and the point of the shuttle spur should be made when a picker becomes worn or when a new picker is placed on the stick.

Pull the shuttle forward in the box about $\frac{3}{16}$-inch so that the tip of the feeler will strike the shuttle spur as the lay moves forward. There should be $\frac{3}{16}$-inch clearance between the latch and the bunter for protection against a transfer when the shuttle is not correctly boxed.

Set the latch depressor so that it will have ¼-inch clearance over the front box plate.

Always check the shuttle feeler settings when a new rocker shaft or rocker shaft bearings are put in the loom. Also check the settings when any change is made in the lay or battery or when a new shuttle is installed.

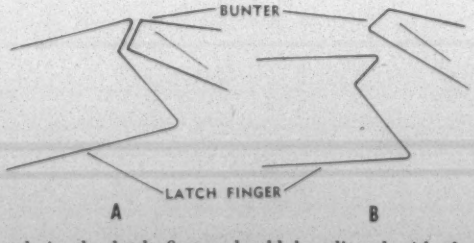
The shuttle feeler will seldom get out of adjustment once it is correctly set and aligned.

If a transfer of filling is not completed, check the settings of the shuttle feeler. If these are in order, the trouble may be found in one of the following:

(1) Shuttle rebounding;
(2) Shuttle not boxed correctly;
(3) Picking motion out of time;
(4) Battery binding;
(5) Filling feeler needs adjustment;
(6) Filling motion not operating correctly; or
(7) Stafford thread cutter (when attached) sticking or binding.

Be sure and check every setting of the shuttle feeler whenever a shuttle is cracked or broken. The feeler is made to protect the shuttle and should be so maintained. It is a waste of time and money to replace a broken shuttle and then have the new shuttle ruined because of a defective setting of the shuttle feeler.

When a shuttle is given a periodic inspection, look especially for nicks and scars that could have been caused by the shuttle feeler. Follow-up on such tell-tale signs will often prevent a broken shuttle or other loom part and will help prevent damage to the warp yarn or injury to some worker.



The notch in the latch finger should be aligned with the bunter as at A for a filling transfer. On a revoked transfer the latch finger should pass under the bunter as at B.

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Evaluating Card Web Neppiness Photographically

CONE MILLS FINDS THE PHOTOGRAPHIC METHOD TO BE BOTH QUICKER AND MORE ACCURATE

By W. N. LILLY

Cone Mills Corp., Greensboro, N. C.*

IN recent years several instruments have been developed for evaluating the neppiness of cotton and yarns. These instruments measure either the nep potential of bale cotton or the surface neps of yarn. No successful instrument has been developed for measuring the neppiness of card webs, although efforts have been made with the electronic scanning principle.[1]

Measurements of nep potential in cotton and neps per unit length in yarn are very useful for controlling the over-all level of neppiness. As we know, carding is the most critical process in relation to neps. The variation among cards requires some sort of nep evaluation of the webs or slivers. Unfortunately, the measurement of neps in card webs practically defies instrumentation. Therefore, most mills resort to counting neps in card webs by one of many various techniques.

Several years ago, the Swedish Institute for Textile Research developed a set of photographic standards which are being used by a number of mills.[2] About a year ago, the research and development division of Cone Mills decided to evaluate these standards, because there have been many problems involved in the counting method.

Problems Of Nep Counting

Many types and sizes of web sampling boards can be found, but they are of little consequence in comparison to variations in what is counted as a nep. Some count every imperfection in the webs, while others count aggregations of small neps as one nep. A given system can be justified fairly well as long as results are compared on the same basis and the counts are made by the same person.

Although most mills report nep counts on the basis of area, some argue in favor of counting on a weight basis, since web samples vary in weight. If *each* web sample of one to three grains is weighed on an analytical balance, the accuracy of the *individual* count is improved. The weighing of a composite of a number of web samples for an average is useless unless only one or two cards are counted. In most mills the average weight of one set of webs or slivers will weigh practically the same as the average from any other set.

The most outstanding problem of nep counting is the classification of nep size. The American Society for Testing Materials has established a tentative method of classifying neps into four size groups.[3] However, it seems that most mills only consider the number of neps without attention to size classification. If the population of neps of all sizes remained proportionately the same, the classification of nep size would be unimportant. It is obvious that counting neps in each size classification requires so much time that it is impractical for routine work in the average mill.

Another factor that influences the nep count is the natural tendency of a technician to overlook some neps in a bad web, whereas he can easily detect each nep when there are only a few. Also, opinions as to what constitutes a nep may change over a period of time unless check tests are made periodically.

Swedish Standards

In order to grade the appearance, a standard scale must be used. Actual webs with varying levels of neppiness could be used. However, it is most difficult to reproduce web standards with exactness of neppiness, web character and nep dispersion. Secondly, the actual web samples would have to be preserved in plastic or between pieces of glass which would flatten the webs and make them resemble a photograph. Therefore, standard photographs of webs are more practical.

The Swedish method works somewhat like the A.S.T.M. yarn appearance charts. The standards are composed of two rows of photographs, with designated grades of 1, 3, 5, 7 and 9 respectively. The photographs are mounted on a 21x30-inch black-surfaced board with enough space between photographs to accommodate a sample for grading. Grades 1, 3 and 5 are mounted on the top row. Grade 5 appears again on the second row along with grades 7 and 9. Any web having an intermediate grade appearance is assigned the appropriate even number (2, 4, 6, 8 or 10). The scale ranges from 0 to 10, which allows eleven grades. This scale includes all qualities of card web, from perfect ones to those obtained in waste spinning.

The scale is logarithmic regarding the appearance of neps and is based on areas, not numbers of neps. Therefore, large neps are automatically given more weight with respect to over-all appearance when they are graded. The webs used to make the standard photographs are equivalent to a 56-grain-per-yard card sliver.

The developers considered the effect of changes in nep grade on yarn appearance. They state that experiments on 20-count yarns have shown that one grade on the present standard corresponds to about one-fourth of a step between two grades in the A.S.T.M. yarn appearance scale A to D. In most cases, smaller differences in yarn are negligible.

Using The Standards

A set of 20 plexiglas templates for sampling the webs were furnished with the standards. Samples are taken in the same manner as for counting. A top piece of 5x8 inches is inserted to protect the sample and to flatten it essentially

*Presented at the Fall meeting of the Textile Quality Control Association, Clemson, S. C., September 8-9.

into two dimensions to correspond with the photographs.

The sample webs are matched by placing the template on the black surface between two of the photographs. This places the photographs and the web samples in the same plane, which allows easier and more accurate grading. The matching of a web sample to the photographs should be done rather quickly and should be based upon the general impression of neppiness.

Mill Evaluations

These standards were used to evaluate the webs from 100 cards in each of seven plants producing slivers weighing from 56 to 68 grains. The card web nep counts among these plants have a fairly wide range because raw stock and production rates are geared to the type fabrics produced.

A home-built carrying case was made to facilitate the handling of 20 templates. The photographs were placed under fluorescent light in a position so that the light reflection did not interfere with grading. Each web sample was graded according to neppiness without consideration for weight. Naturally, heavier webs were graded higher on the scale than lighter webs of the same quality from another plant. Inter-plant comparisons were made by correcting the grade to a common weight such as correcting skein breaks of yarn to a standard number. Differences in actual web weights and the photograph caused no difficulty in grading. The average grades for the seven mills ranked well past nep counts. The average mill had four to five grades of web, which may seem small as compared to the range associated with the counting system. The smaller range does not reduce the effectiveness of control. With a limited number of grades, a frequency distribution can be made much easier. Sensitivity to changes in neppiness was obtained by carrying averages out to the second decimal.

Conclusions

As a result of these trials, we concluded that the Swedish standards offer distinct advantages over the counting system.

(1) The size of the neps is considered in the appearance grades.

(2) The photographic arrangement allows accurate grading by technicians who have little nep counting experience or skill.

(3) Evaluations can be made more quickly, especially for samples with more neps.

(4) The standards are a constant reference.

(5) Measurements can be made under controlled lighting conditions.

The advantages of this method immediately appealed to overseers of carding and to quality control men. The evaluation tests showed that the photographic system can be easily adapted to routine quality control.

Future Needs

Photographic nep standards are not the ultimate in measuring neppiness. The nebulous nep has yet to defy the fast-developing field of irradiation. When radio-active sensing elements are applied to nep counting, the quality as well as the quantity of neps in card webs and slivers can be determined with the necessary speed and accuracy.

1. N. H. Chamberlain and G. Jordan, *Textile Research Journal*, Vol. XXVI, No. 8.
2. G. Nordhammar and K. E. Erickson, *Textile Industries*, April 1958.
3. A.S.T.M. Standards, Designation D 1446-59T.

The Designing Of Pile Fabrics

By E. B. BERRY

THE AUTHOR CONCLUDES HIS DISCUSSION OF TERRY AND INTRODUCES US TO RUG AND CARPET PRODUCTION

Chapter 10 (cont'd)

Designing A Special Towel

A customer wants a towel with a border as seen in Fig. 60. The construction is to be 54 ends (27 pile plus 27 backing) × 54 picks. He wants 30/2 pile yarn and 30/2 backing yarn with 15/1 filling yarn. The pile delivery is to be close to 8 and width of 25 inches of pile plus one-quarter-inch selvage each side. This towel is to have a body of 34 inches of all white terry. On either side of the body, 1½ inches of the fancy border (Fig. 60). At either side of this, a two-inch border of terry, then a one-inch plain border or tab (no loops), followed by a one-inch border of terry. Although not necessarily specified by the customer, a small tab should be woven at either end of the towel to allow for hemming. A cut mark is usually woven between towels, to show just where to cut them apart after finishing.

The mill that is going to weave these towels has 40-inch Crompton & Knowles C-5 looms equipped with 20-harness dobbies and two cylinders for different harness chains. Fig. 61 illustrates the weave D.I.D. and RP for the fancy border which is on both ends of the towel. The selvage is the 2-1 rib with a catch cord to bind off the filling at the selvages. A straight draw would take 24 harness and the loom is limited to 20 harness; thus a fancy draw is required.

The body and plain borders are the regular three-pick terry weave and the chain for this is shown in Fig. 62. This chain will be put on dobby cylinder No. 2 (outside) as it is used most. The fancy border chain will be put on dobby cylinder No. 1 (inside). This is shown in Fig. 63.

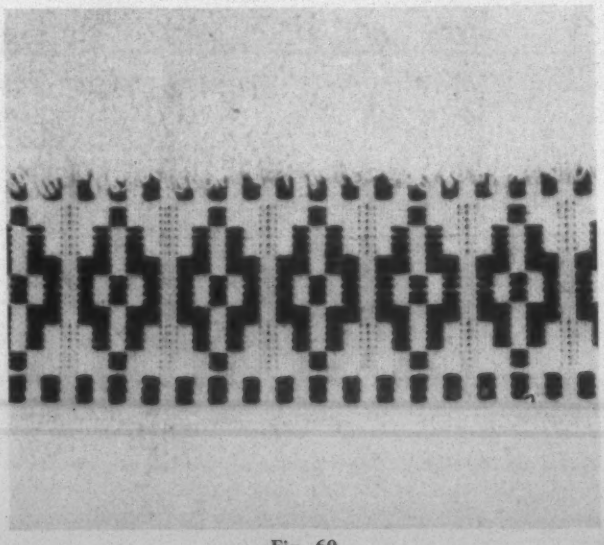

Fig. 60

An indicator chain will have to be built so the loom will perform the correct function at the right time, and for the proper number of picks. This chain is illustrated in Fig. 64. At the right in the figure is an explanation of what is being made, and the number of picks. M_1 is 9 links or 18 picks while M_2 is 25 links or 50 picks.

Delivery Calculations

A delivery of 8 will result in:

$$\frac{8 \text{ (Delivery)} \times 3 \text{ (cycle)}}{54 \text{ p.p.i.}} = .444'' \text{ reed swing}$$

$$\frac{8\frac{3}{4}'' \text{ (circ. of roll)}}{.444''} = 19.70 \text{ T pile delivery gear}$$

It is not possible to have a part of a tooth in a gear, so a change must be made. Rounding off the 19.7-T gear to a 20-T gear, the delivery will be:

$$\frac{8\frac{3}{4}''}{20 \text{ T}} = .4375'' \text{ reed swing}$$

$$\frac{.4375'' \times 54 \text{ (p.p.i.)}}{3 \text{ (cycle)}} = 7.875 \text{ delivery in place of the 8 that was requested}$$

The filling contraction in terry cloth is rather high. We will assume a filling contraction of 10%. With a cloth width of 25 inches on pile, the reed width will be:

$$\frac{25''}{(100\text{-}10\%)} = 27.78'' \text{ reed width}$$

With a sley of 54, and one pile end and one backing end in a dent, there are 27 dents per inch in the cloth. Then

$$27 \times 25'' = 675 \text{ dents.}$$

$$\frac{675 \text{ dents}}{27.78''} = 24.30 \text{ reed number (this is rounded off to a 24-dent reed)}$$

The number of dents and ends for this towel will be:

Item	Dents	Pile Ends	Backing Ends
Body	675	675	675
Selvage	6		12
Selvage	6		12
Catch cord	1		2
Catch cord	1		2
	689	675	703

The reed width will be:

$$\frac{689}{24} = 28.71'' \text{ total for body and selvage}$$

A 6% crimp or 1.06 delivery is used for the backing

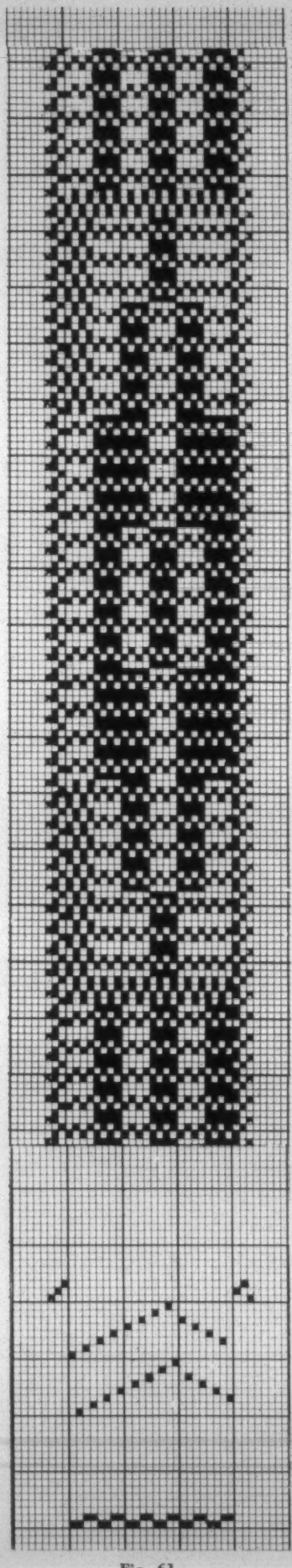

Fig. 61

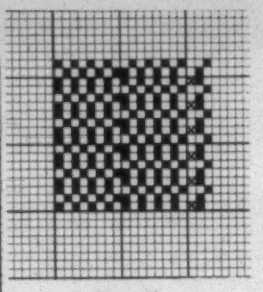

Fig. 62

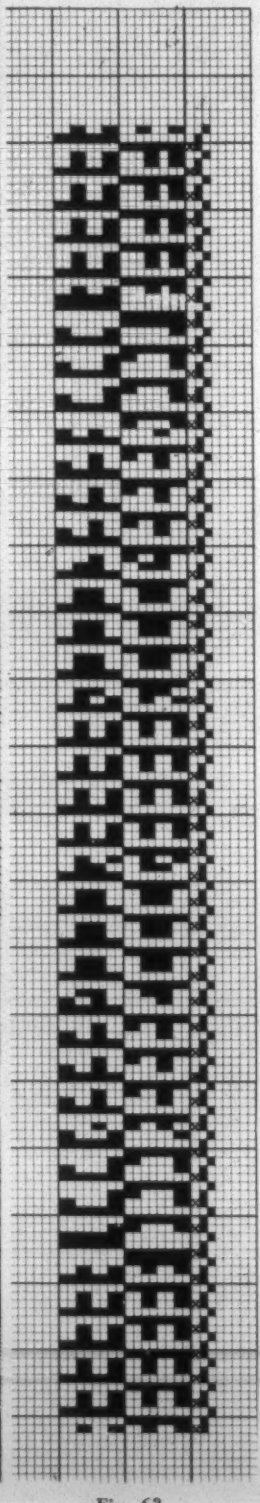

Fig. 63

throughout the towel and a 1.06 delivery for the pile yarn in the plain tab area.

Weight Calculations

Towels are sold by the number of pounds per dozen. The weight calculations for this towel are as follows:

Pile in Pile Area:

$$\frac{40'' \times 675 \times 7.875 \times 12}{840 \times 36 \times 15} = 5.625 \text{ lbs.}$$

Pile in Depression Area:

$$\frac{6'' \times 675 \times 1.06 \times 12}{840 \times 36 \times 15} = .114 \text{ lbs.}$$

Backing:

$$\frac{46'' \times 703 \times 1.06 \times 12}{840 \times 36 \times 15} = .907 \text{ lbs.}$$

Filling:

$$\frac{28.71'' \times 2622}{840 \times 36 \times 15} = \frac{1.992 \text{ lbs.}}{8.638 \text{ lbs./dozen towels}}$$

The weight of a dozen towels generally runs from 4 to 10 pounds. The towel just calculated is on the high side of this range. It is a top quality towel, which will sell at a premium. The more popular towels run 4 to 5 pounds per dozen. When laundry is sent out commercially, it is generally washed and dried by the pound, and for this reason the lighter weight towels are more popular.

The author wishes to express his appreciation to Crompton & Knowles Corp. of Worcester, Mass., for its kind permission in duplicating Figs. 50, 51, 52, 53, 54 and 56.

Chapter 11

Rugs

CALLAWAY Textile Dictionary defines rug as follows: "A piece of thick heavy fabric, usually with a pile and commonly of wool, used for floor covering. The terms rug and carpet are used interchangeably."

The distinction between rugs and carpets is primarily a matter of dimension. An oval throw "rug" is purchased for a hall, or a 9x12 "rug" is the center of attraction in a room. On the other hand, a family will install wall-to-wall "carpet" for luxurious living, or the "carpet" in a hotel lobby will have high pile for comfortable walking. A smaller floor covering, with a definite dimension is a "rug." If the entire floor area is covered, the covering is a "carpet."

There are many different types of rugs. Among them are: (1) Ingrain; (2) Oriental; (3) Axminster; (4) Brussels; (5) Tapestry; (6) Velvet; and (7) Wilton.

Ingrain

Ingrain is described by Callaway as: "A variety of carpet without any pile made with the double plain weave. The face and back fabrics are of different colors and the two cloths interchange positions according to the design, thus binding the structure together. The finished carpet is reversible. The best qualities are all-wool but cotton warp is used in some grades. It is one of the earliest types of jac-

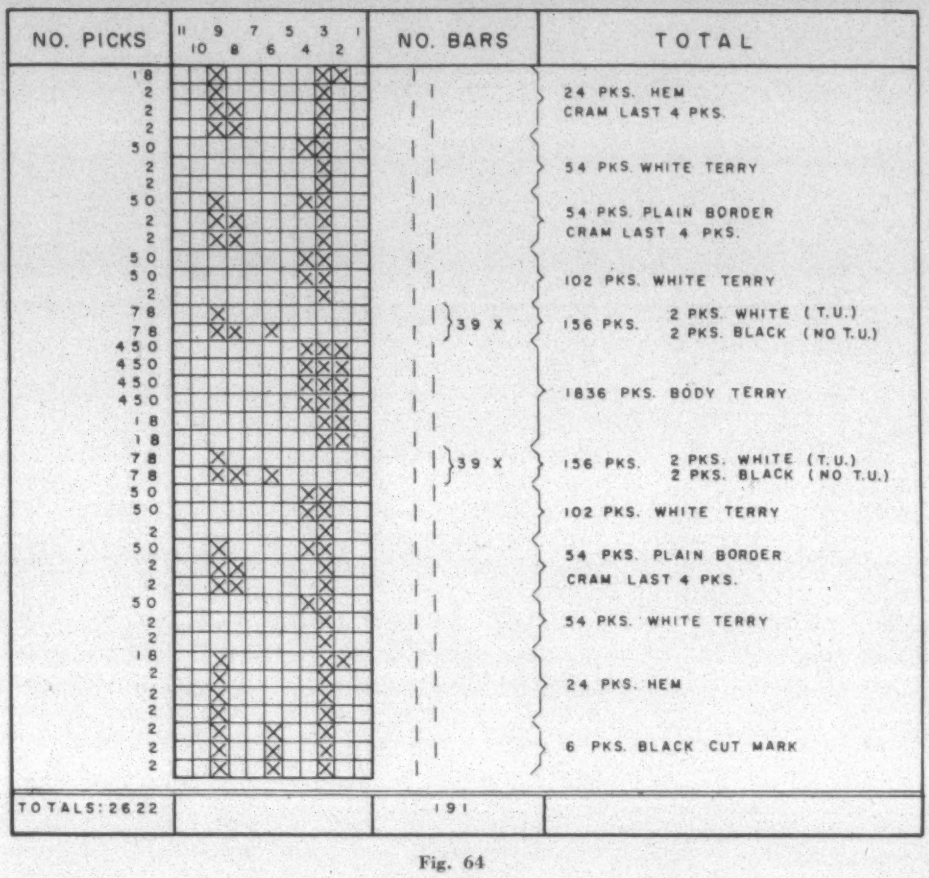

Fig. 64

quard woven carpets, but is of little importance now. Also called Scotch, Kiddeminister and Kilmarnock carpet."

Oriental Rugs

Oriental rugs are the "royal family" of rugs, but are seen in few homes because of their high cost. They are all hand-made and vary in method of making and type of design depending upon where they are made. The "loom" used varies from country to country and is just a framework to hold or support the warp threads. Both vertical and horizontal looms are employed. These two types in turn are subdivided as follows: (1) The warp remains stationary and the weaver moves. (2) The weaver remains stationary and the warp moves.

One method of making the shed is shown in Fig. 65. A shed stick (1) and a warp roller (2) are used to separate alternate backing ends. These are inserted horizontally, one above the other, across the warp. The weaver passes the filling yarn through the shed thus formed. Moving the shed stick up and down reverses the position of the backing ends. One, two or three picks may be thrown, depending upon the weave of the ground fabric. The beat-up is made by the weaver using a comb to push the last pick up to make cloth. With the base fabric made this way, the pile is put in, by hand, around the warp threads.

The pile yarn (generally wool) is wrapped around several warp threads, and tied in a knot. The actual tying of the knots is not difficult but requires a great deal of patience. In a 6x8-foot rug there may be over 1 million knots, which will give some idea as to the time needed to weave and the patience needed to endure.

Great skill is required here, for the use of different colored yarns makes the pattern or design. In many cases the design is made up as the weaver progresses with his work. In other cases, a master designer will oversee several different weavers and direct which color is to be used.

Each row of knots is beaten up by means of the same comb. Shears are used to cut the ends of the knots, creating a cut pile surface. Picks are again thrown, and the cycle is repeated.

Knots Used

There are three kinds of knots used in making these hand-made rugs:

(a) The Ghiordes or Turkish knot (illustrated in Fig. 66A) is used in most rugs made in Asia Minor, Caucasia and in some made in Persia and India. It is named after the ancient town of Ghiordes in Asia Minor.

(2) The Sehna (Senna) or Persian knot (illustrated in Fig. 66B & C) is found in most rugs made in China, Turkoman, India and Persia. It is named for the city of Sehna in Western Persia.

(3) The Spanish knot (shown in Fig. 66D) is used to make the oldest of the Spanish rugs but is seldom seen in any others.

The Persian knot is made in either left-hand (Fig. 66B) or right-hand (Fig. 66C). In the finished rug, the lay of pile—to the left or to the right—can be easily seen and this helps identify which knot is used. The Turkish knot on the other hand, has a lay of pile always in the warp direction (Fig. 66A). The two legs of the pile tufts come up between two adjacent backing ends. The tuft next to it is the same. Thus in four backing ends, there are four legs of pile tufts, but they are concentrated; two backing ends are between two adjacent pile legs. The Persian knot (Fig. 66 B & C) on the other hand, has a pile leg and a backing end alternating. This distributes the pile more uniformly over the surface and permits a tighter weave. With more concentration, a shorter pile height for this same coverage is obtained than with the Turkish knot. Also the Persian knot permits a clearer or more distinct pattern due to its lower pile height.

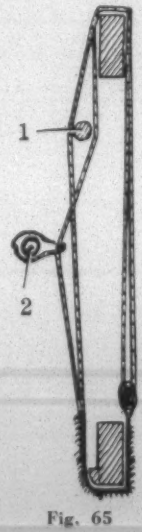

Fig. 65

It would appear from Fig. 66 that by merely looking at the back, one could tell what type of knot is used in making the rugs. Certain ends may be put to the back, as the knot is tied, and may appear as seen in Fig. 66, A-1, B-1 and C-1. It may be

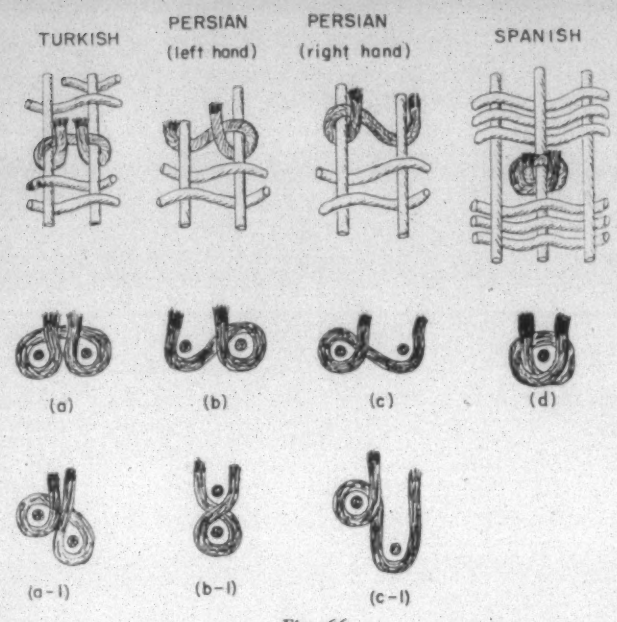

Fig. 66

necessary to examine both face and back closely before the knot can be determined for sure.

Identifying An Oriental Rug

There are several ways to determine what is a true Oriental rug. The first is the price. A hand-woven rug will sell for 10 to 20 times the price of a power-woven rug. A mill may purchase an original Oriental for $3,500. This will be used as a guide to copy and make a woven Axminster which will sell for $350. The woven imitation will not have the quality of the original, but is very satisfactory, and makes this type floor covering available to the average person who cannot afford a $3,500 rug.

Another distinguishing feature of the Oriental rug is the tightness of the weave. When the knots are tied by hand, they can be pushed into the fabric closer, and consequently have more tufts per square inch than its power-woven cousin.

The lack of symmetry can be detected in the hand-woven original. It is almost impossible to weave by hand and have the rug exactly symmetrical. Also the Turks, who produce many of the hand-made rugs, believe that only Allah is perfect. Therefore, they purposely distort these patterns a little, so that the design will not be perfect.

No power loom makes the same kind of knot as any of the three already mentioned. Investigation can tell a hand-made rug from its power-woven counterpart.

Axminster Carpet

Axminster is defined by Callaway as: "A type of carpet originally made in the town of Axminster, England. It is of the cut pile structure and requires a special and complex piece of weaving machinery for its production. The tufts are inserted by rows between the warp threads by means of a special spool-like tufting device, and then bound in by means of the filling. There is practically no limit to the number of colors or to the intricacy of the design. For these reasons, and because it is very economical in the use of pile yarn, the Axminster is perhaps the most popular type of carpet made."

Complicated Designing

The designing is quite complicated. A designer will spend several weeks painting the design on graph paper with pencil or charcoal. On this paper, each block represents a tuft in the rug. After the outline is finished, the graph paper is painted in color; the tints and tones used are actually those that will appear in the woven rug. Up to 4,000 different colors are available to the designer. He does not use just any "pink" but there are perhaps 25 different pinks to choose from. He uses *the* one that will blend best with the remainder of the colors. Coming up with the best combination may take several months.

Next, this design is sent to a setting frame. Each color on the paper is reproduced with yarn of the same color. Each spool is a row of tufts in the carpet, while each strand of yarn in the spool is a tuft in each row. The spools are then arranged in a tube frame. This will guide the yarn into proper position when it is weaving. All the frames are then mounted in proper sequence in the overhead chain, which is an endless conveyor (see Fig. 67). There is sufficient yarn put on these spools to weave about 200 rugs.

Thus the time consumed to make the first rug may be a year. Dyeing the yarn, designing, setting in the frame, etc., is a long tedious task. The first rug then must be checked for pattern and color to make sure the end-product is correct and just what the designer desired. If anything is not right (pattern, color, etc.) corrections will be made in the spools, so that the final rug is according to the proper specification.

As each spool approaches the fell of the cloth, it is removed from the conveyor, and is lowered in a sweeping action, unravelling some yarn to form the tuft. A needle is passed through the shed, above the pile loop formed from the spools, and pulls the filling yarn back. As the filling yarn is unwound from a cone, it inserts two picks, because the filling is bound in the selvage from the previous pass of the needle. The beat up takes place next. Then the pile yarns cut clean, at the surface of the rug, and the spool is

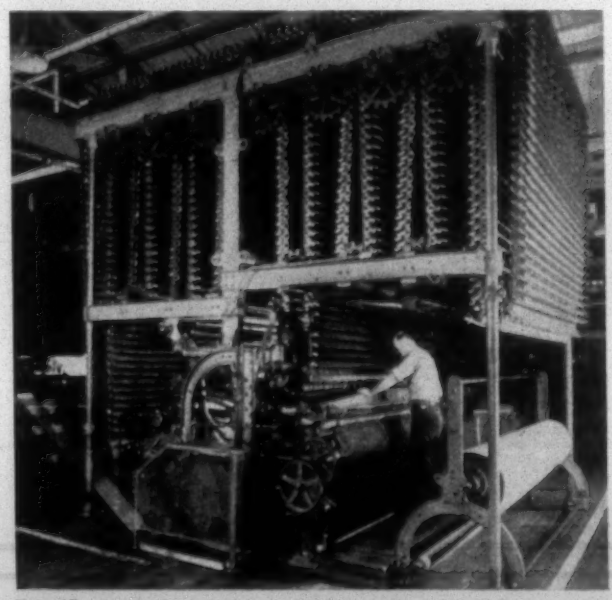

Fig. 67—An endless chain of cylinders or "spools" each containing strands of yarn to produce a single width-wise row of pile tufts, is so manipulated by the loom mechanism that each presents itself at precisely the right moment to deliver its contribution to the carpet's design. The loom is a Crompton & Knowles Arminster.

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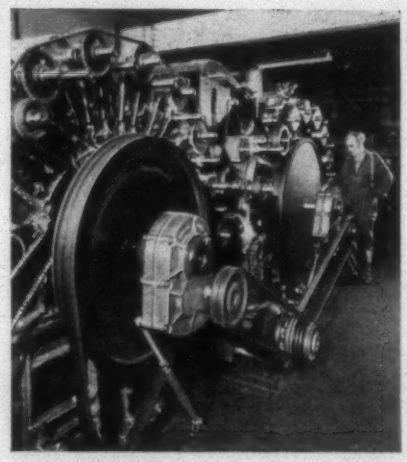
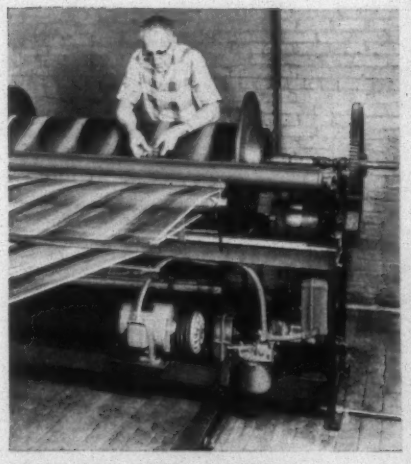
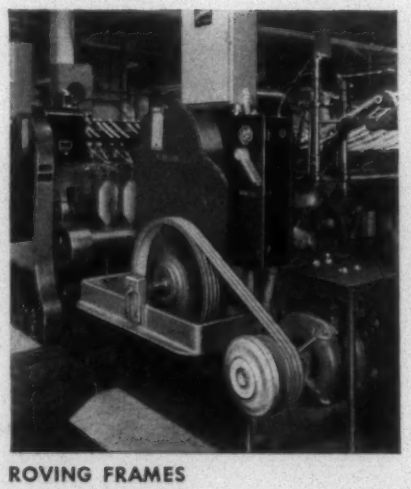


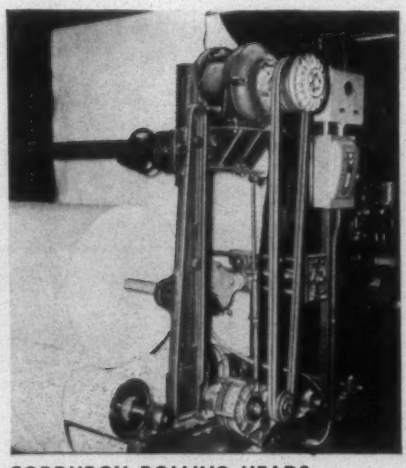
WOOL CARDS



LONG RAIL BEAM WARPERS



ROVING FRAMES



CORDUROY ROLLING HEADS

DODGE of Mishawaka, Ind.

DODGE MANUFACTURING CORPORATION, 6700 Union Street, Mishawaka, Indiana

returned to the conveyor. The cycle is then repeated. Each individual tuft comes from an individual spool, making possible the unlimited color arrangement.

Weave Variations

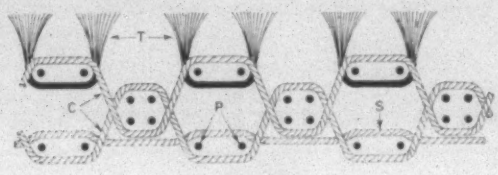


Fig. 68

Fig. 68 is the cross-section of a typical weave for an Axminster rug—T are the tufts; C the chain warps; P the picks (always in pairs in this type of weave); and S the stuffer warp. This is a good quality rug having four to a repeat.

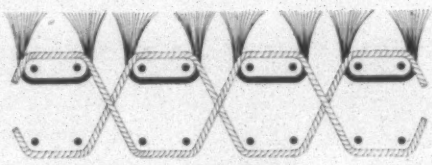


Fig. 69

(a) Fig. 69 is a simple Axminster weave, two shots with no stuffer. The chain warp binds the picks and pile tufts together.

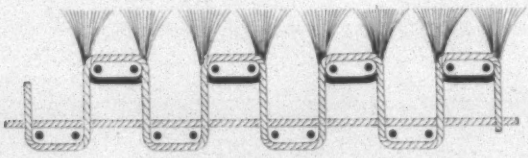


Fig. 70

(b) Fig. 70 is a weave for a better quality Axminster rug. A two-shot weave is used, but with a stuffer added.

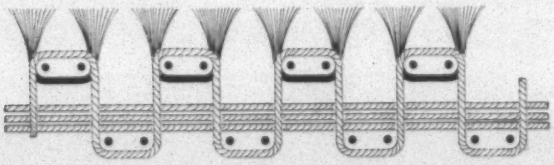


Fig. 71

(c) Fig. 71 is the weave for another two-shot Axminster rug. Here three-stuffer yarns are added for extra body in the back.

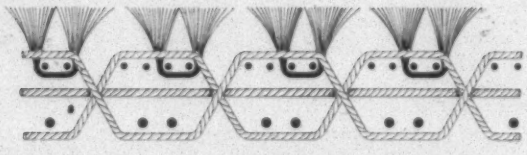


Fig. 72

(d) Figure 72 is a three-shot weave of an Imperial Axminster. This is generally a better quality than the two-shot weave. One stuffer yarn is added.

(e) Fig. 73 is a three-shot weave with two systems of stuffer yarns added.

Axminster is the one rug that cannot be rolled crosswise, but must be rolled in the warp direction.

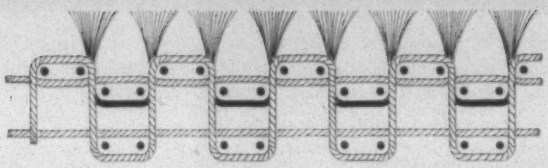


Fig. 73

Brussels Carpet

Brussels carpet is defined by Callaway Textile Dictionary as: "An uncut pile fabric woven with the aid of a jacquard machine. The worsted yarns used for the pile are woven into the body of the fabric when not required to form the figure. These carpets are known as three, four or five-frame carpets, the frames being mounted back of the loom and each containing a large number of spools of the pile yarn, each frame holding only one color except in the case of 'planting.' Brussels carpets are durable but the number of colors is usually limited to five and they are comparatively expensive due to the large amount of worsted yarn which remains hidden in the body of the fabric.

The jacquard head together with the assortment of colors makes possible the fancy design. It is rather expensive, however, for when the pile is not showing on the surface, it is hidden in the body of the rug. This creates a heavy back which is good for holding up under wear, but the same weight could be obtained from a cheaper stuffer cotton yarn.

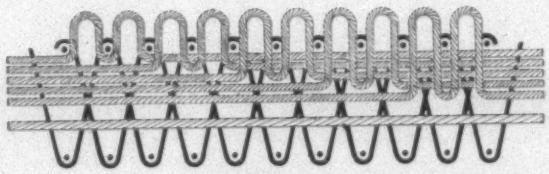


Fig. 74

Fig. 74 illustrates the weave for a five-frame Brussels rug.

Tapestry Carpet

Tapestry carpet, according to Callaway, is: "A looped pile carpet made with one set of pile ends, and woven without the aid of a jacquard machine. The design is produced by printing the various colors on the pile threads before they are wound on to a beam. Since all the wool used in these carpets goes into the pile, body and weight must be supplied by the weft and stuffer yarns which are most often of jute and frequently heavily sized."

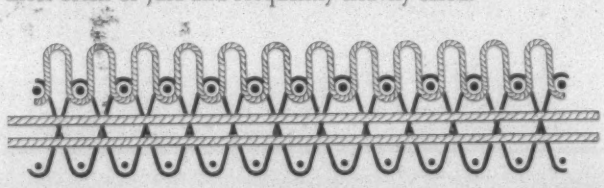


Fig. 75

Fig. 75 illustrates the weave for a typical two-shot tapestry rug. The loop is made with filling wires. In the loom, two sheds are formed—the lower one for the shuttle, the upper one for the filling wire which is inserted as the shuttle goes from the right to the left. As the shuttle goes from left to right, a previously thrown wire is removed,

and is ready to be inserted in the newly formed shed when the shuttle goes from right to left.

Velvet Carpet

Callaway defines velvet as: "A cut pile carpet produced by the same methods used for tapestry carpets but using cutting wires instead of looping wires. Both velvet and tapestry carpets are less expensive than Wilton and Brussels carpets, with which they are often compared, because the method of weaving requires much less wool yarn per square yard."

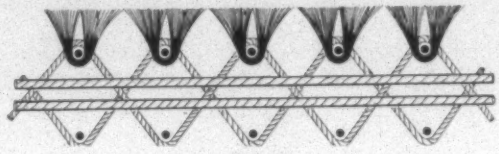


Fig. 76

Fig. 76 shows the weave for a two-shot velvet rug. Stuffer yarns are added here to give extra weight to the rug.

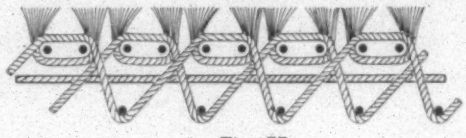


Fig. 77

(a) Figure 77 is the weave for a three-shed velvet rug. A stuffer yarn is added here too.

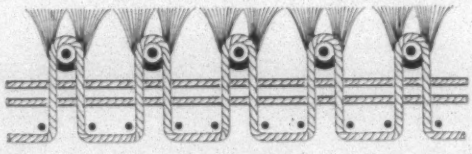


Fig. 78

(b) Fig. 78 illustrates another weave for a three-shot velvet rug. Two stuffer yarns are added.

Wilton Pile Fabrics

Wilton, according to Callaway, is: "A cut pile fabric woven on a loom with a jacquard head. The pile is either of wool or worsted and the warp, weft and stuffer yarns are usually of cotton. The number of frames varies from three

to six. Worsted Wiltons are considered to be about the best wearing carpet made, and they also offer great possibilities for fineness of design and texture. Wool Wiltons have a longer, softer pile but do not have the same resiliency and are somewhat coarser in the details of the design. Wilton carpets are generally of superior quality and more expensive than Brussels carpets which they resemble except for the cut pile.

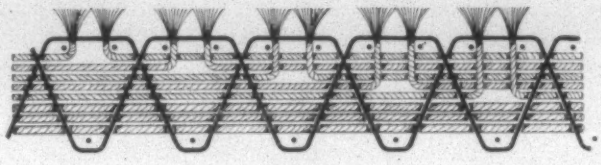


Fig. 79

Fig. 79 is the cross-section of a weave for a typical Wilton rug. As in the Brussels, the pile yarn here is woven in the ground when it is not showing on the face.

Finishing

Following are the steps in rug or carpet finishing:

(1) Weave
(2) Measure
(3) Greige inspect
(4) Mend and burl
(5) Shearing
(6) Size or rubberize (when required)
(7) Dry (when required)
(8) Finish inspection
(9) Roll and wrap
(10) Ship

Miscellaneous Data

Rugs vary considerably in width. One standard measure is the "4" which means the yard is divided by 4 or 9 inches Thus a 3/4 width rug is 27 inches wide, a 4/4 is 36 inches and 5/4 is 45 inches, etc.

Mothproofing is important if there is animal fiber present in the rug. Mothproofing may be done before the yarn is dyed, or the entire rug may be treated.

Most rugs are very bulky, and the looms are doffed when the length reaches approximately 25 yards. If longer lengths are needed, as in a hotel lobby, special arrangements must be made to roll up these extra yards at the loom.

Different rug looms will have different speeds and different widths within the same type of loom will vary considerably as well as between different mills. The following table will show approximate widths and speeds.

Width	Velvet Rug Loom Speed (p.p.m.)	Looms Per Weaver
27"	106	2
36"	90	2
9'	54	1
12'	50	1
15'	38	1
18'	28	1

Width	Wilton Rug Looms Speed (p.p.m.)	Looms Per Weaver
27"	72	2
9'	65	1
12'	34	1
18'	30	1

The author wishes to express his indebtedness to *Oil-Power* for its kind permission in allowing the reproduction of Figs. 65 and 66, and to Bigelow-Sanford Carpet Co. for allowing the use of Fig. 67.

The A. E. Staley High-Temperature Converter

A NEW SYSTEM FOR PRODUCING WARP SIZES

A NEW and revolutionary system for the preparation of textile warp sizes from unmodified corn starch was shown last May at the American Textile Machinery Exhibition-International in Atlantic City, N. J., and again this month at the Greenville Show. A development of A. E. Staley Mfg. Co. of Decatur, Ill., the system is known as the High-Temperature Converter. It modifies starch paste to a unique, non-congealing product of reduced viscosity in a continuous operation. Staley reports the system presents a relatively simple and economical means for mill conversion to obtain a starch of the desired fluidity and with excellent film-forming properties.

The functioning of the High-Temperature Converter may be summed up as the continuous rapid gelatinization of starch in slurry form with high-pressure steam followed by retention of the hot pasted starch in a pressure vessel to convert it. All variables—including slurry pressure and flow, steam pressure, conversion temperature and conversion holding time—are automatically controlled to obtain uniform and reproducible results.

Basic elements in Fig. 1 show the regular line of starch flow during operation. Through the slurry pump, the converter feeds slurry at a constant rate to the jet cooker. In the jet cooker, the slurry is met by a high pressure jet of steam which mixes completely with it and rapidly heats it to a high temperature. Pasting of the starch begins almost instantaneously.

The hot starch passes directly into the holding tank where additional steam maintains a controlled pressure and temperature. The starch is modified or converted as it follows a slow, downward path within the holding tank. Since the flow rate is constant, all starch entering the tank is retained for an equal period of time. Since retention time determines the degree of conversion, all starch is uniformly converted.

The converted starch paste is discharged into a flash chamber where the pressure is reduced to atmospheric and the temperature is reduced to the boiling point. The paste then passes to a storage tank from which it is fed to the size boxes. The storage tank is equipped with high and low level controls which regulate the flow of slurry to the converter—the low-level control starting it and the high-level control stopping it.

When the high-level control stops the flow of slurry, the converter is not completely shut down in the usual sense. The remaining starch in the holding tank is first discharged and then the converter goes into a "stand-by" phase. While on "stand-by," the steam pressure is maintained in the holding tank which is kept hot and ready for instant operation.

Central Control Panel

The fully-automatic High-Temperature Converter is controlled from a central control panel. Colored lights on the control panel indicate the phase of the operation; (1) filling —green; (2) running—white; (3) draining—blue; (4) hot stand-by—amber. A fifth light—red—is provided in case of emergency such as the failure of the basic supply service of steam, air, electricity or slurry.

In addition to the colored lights, the panel has two regulating knobs to provide flexibility; two two-pen recorders designed to give a complete record of the converter's performance; and four gauges to supply additional information on operating conditions.

Staley reports a listing of the outstanding features of the High-Temperature Converter includes:

(1) Unique design for maintaining a uniform solids concentration.

(2) Capacity to cook starch almost instantaneously at unusual temperatures.

(3) Capacity not only to cook but to modify the starch, producing a non-congealing product.

(4) Provision for a bath of live steam to assist in maintaining an accurately controlled temperature for cooking and converting starch.

(5) Capacity to hold the starch at a controlled temperature for a closely controlled time.

(6) Production of a converted starch of uniform viscosity.

(7) Flushing of all starch lines without dilution of the finished product.

(8) Addition of size compounds, accurately metered and synchronized with the flow of starch.

(9) Uniform blending of starch and size compounds.

(10) Maintenance of a controlled level in the storage tank supplying the size boxes.

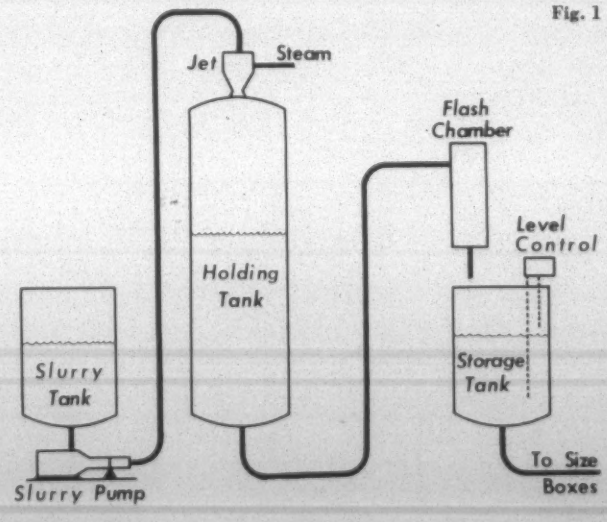
(11) Capacity to produce starch modified to any applicable degree of conversion.

(12) Capacity to produce a warp size at any reasonable solids concentration.

(13) Simplicity of operation.

When a mill contracts to use a Converter, Staley engineers assist in its installation and start-up. The Converter is thoroughly tested in actual operation to assure that it meets standards for performance and uniformity. Staley engineers also conduct a training program for operating and maintenance personnel.

Fig. 1



The Mitsubishi Pot-Type Spinning Frame

WORSTED YARN AT SPEEDS UP TO 18,000 R.P.M.

CONSIDERABLE interest was shown in a new pot-type air spinning frame at the recent A.T.M.E. in Atlantic City, N. J. Built for manufacturing worsted yarn by Mitsubishi Shipbuilding & Engineering Co., Japan, it was the first showing in the U. S., even though the frame has been available for about two years. The exhibition frame was making 42.5s worsted yarn of 100% wool and a draft of 48 and a pot rotating speed of 18,000 r.p.m.

The air spinning frame, abbreviated to A.S.F., is said by Mitsubishi to be the first worsted frame incorporating super-high drafting elements with pot winding equipment. Worsted yarn spun on the frame is said to be much superior in strength, elasticity and evenness even though the length of worsted processing is greatly reduced by its use.

The mechanical features claimed for the A.S.F. include:

(1) High spinning speeds—A.S.F. spins at a much faster speed than a conventional ring spinning frame. The usual rotating speed of the A.S.F. pot is from 16,000 to 18,000 r.p.m., making the productive capacity two to three times greater than ring spinning.

(2) Practically no end-breakage—The spinning tension of the A.S.F. when winding is one-third to one-fifth that of ring frames. When re-winding starts, the speed is lowered to prevent undue strain on the yarn. End-breakage does not exceed one-fourth to one-sixth that of ring spinning.

The A.S.F. is designed to produce a distinctive soft-twisted yarn of high quality suitable for soft and full dress goods. High elasticity in the yarn is the result of light spinning tension. Also because of the light spinning tension, it is possible to produce soft twisted yarn, which cannot be made on other spinning frames, according to Mitsubishi.

The advantages listed for the A.S.F. are in addition to the approximate two-thirds reduction in labor resulting from the low end-breakage rate. The A.S.F. power consumption is usually 2½ times greater than ring frames because of the power requirements from rotating 87 m.m. outside diameter pots at speeds as high as 18,000 r.p.m. However, Mitsubishi reports that considering the lower labor cost and reduced floor space requirements, the total operating cost of the A.S.F. is about 20% less than ring frames.

How Does It Work?

In operation (Fig. 1) sliver delivered from the drafting element is immediately inhaled into the sliver-inhaling tube. This tube is designed to suck a sliver by eddy air while putting false twist into the sliver. After passing through the inhaling tube the sliver is actually a false twisted yarn and is automatically sucked into the rotating pot through a yarn-protecting tube and a yarn-leading tube. Air flow is present in these tubes because of the vacuum developed in the pot rotating at high speed.

After entrance into the pot, the false-twisted yarn attaches itself to the inside wall by means of centrifugal force and is then definitely twisted. The twist in the yarn is dependent on the front roll speed and the rotating speed of the pot.

Layers of yarn are formed on the pot's inside wall by the vertical traverse of the yarn-leading tube. When a predetermined amount of yarn has formed in the pot, the four-pole coil circuit of the motor is open with the rotating speed gradually lowering to the re-winding speed. The six-pole circuit is closed and rotation continues at this speed. In the meantime, as the bobbin rail descends to the correct position, the front roller stops delivering, and, at the same time, a bobbin carried by the bobbin holder outside of the yarn-leading tube is quickly inserted into the pot.

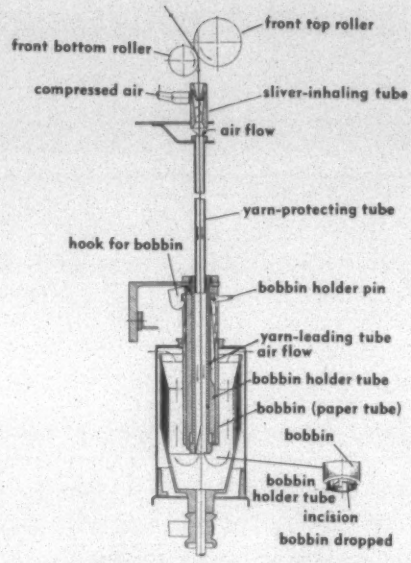


Fig. 1

Re-Winding Starts

At this time, the yarn coming from the end of the yarn-leading tube is hooked at an incision of the bobbin holder. Because of the continuing rotation of the pot, the yarn which was anchored on the inside wall is reversely wrapped onto the stationary bobbin. Re-winding takes less than one minute.

Bobbin rails are raised and inclined forward by turning the gear box handle when the yarn has been rewound. The bobbin holder pin is pushed down by hand and the bobbin is removed. The next spinning operation begins as soon as all the empty bobbins have been set and the gear box handle is turned in the opposite direction.

Mitsubishi reports only three settings are needed for A.S.F. operation: (1) feeding speed of the front roller; (2) stopping position of the bobbin; and (3) pot rotating speed. With these three settings made, the frame is operated by the switch and lever at the gear-end.

The A.S.F. is built with 304 spindles. Packages hold some 2.65 ounces of 48s worsted yarn. The super high draft equipment used on the Mitsubishi frame is made by Nihon Shaft Seike Co. With woolen fiber, drafts of 60 to 100 are possible. When spinning synthetic fibers, the drafting range is 100 to 150.

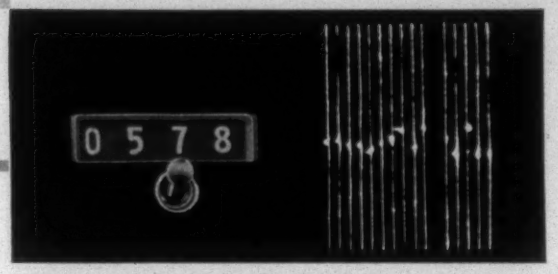
The A.S.F. is guaranteed to produce specified amounts of yarn. The frame's written guarantee for three counts of yarn is:

Count (Woolen Yarn)	48	60	72
Number of Spindles	304	304	304
Twist	14.5 t.p.i.	16.1 t.p.i.	17.5 t.p.i.
Spinning Speed	1,190 in./min.	1,070 in./min.	985 in./min.
Pot Rotating Speed	17,200 r.p.m.	17,200 r. p.m.	17,200 r.p.m.
Spinning Time	119 min.	155 min.	188 min.
Weight of Package	2.65 oz.	2.47 oz.	2.3 oz.
Doffing Time	10 min.		
Production/Spdl./Hr. (net operating time)	1.33 oz.	0.96 oz.	0.73 oz.
Amount of Waste Fiber	about 0.5%		

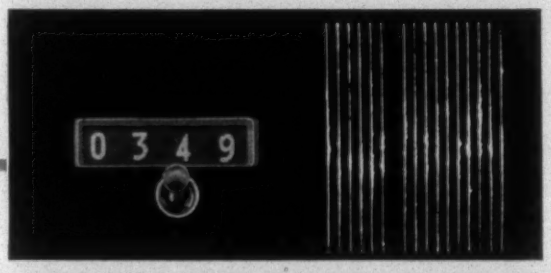
USTER IMPERFECTION INDICATOR IPI COUNTS

**where it counts most-
in yarn quality!**

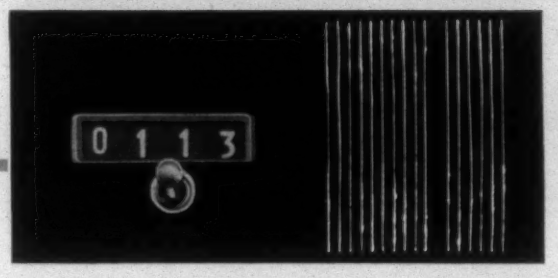
COUNTS NEPS



COUNTS THICK PLACES



COUNTS THIN PLACES



The Uster ImPerfection Indicator introduces an entirely new concept in yarn defect analysis. It counts neps, thick and thin places (chief causes of seconds in knitted or woven goods) in one operation with far greater accuracy than the human eye. Exact numbers of imperfections are tabulated and recorded on visual counters simultaneously with other tests being run. No additional personnel or testing time is required.

Loom stoppage can be more accurately predicted because IPI will show the number and seriousness of thick and thin spots in yarn according to preset sensitivity controls. It also automatically compensates for short and long term count variations in yarn, thereby indicating the seriousness of the defect in relation to yarn size.

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News Of The Trade

Cellulosic Fabrics Treated For Easy-Care Increase 23% In 1959

Cotton, rayon and acetate fabrics treated for crease resistance and wash-and-wear properties in 1959 amounted to 2,363 million yards, according to figures given by the U. S. Department of Commerce. This was 23% above the 1958 output of 1,921 million linear yards.

Over 96% of the treated fabrics in 1959 were resin-finished. Resin-treated production in 1959 was 23% greater than the 1958 output, and 53% above the 1957 level. Of the 1959 resin-treated total, 1,905 million yards were cotton fabrics while rayon/acetate amounted to 374 million yards. Some nylon and other non-cellulosic fiber fabrics are also finished for crease resistance or wash-and-wear properties, but this group of fabrics was not covered in the 1959 survey of special finishes.

The table shown below represents a summary of the production of crease resistant fabrics.

Cellulosic Fiber Fabrics for Crease Resistance or Wash-And-Wear Properties

(Thousands of Finished Linear Yards)

Type of Fabric	1959		1958		1957*
	Resin-Finished	Other Chemical Finishes	Resin-Finished	Other Chemical Finishes	Resin-Finished
TOTAL	2,278,861	84,190	1,855,892	65,507	1,491,518
Cotton print cloth yarn fabrics	870,924	(D)	722,635	(D)	542,841
Fine cotton goods	715,207	(D)	482,941	(D)	461,280
All other cotton fabrics	318,398	(D)	206,437	(D)	147,127
Rayon and/or acetate fabrics	374,332	52,040	343,879	44,943	340,270

D Withheld to avoid disclosing figures for individual companies.
* Data for crease resistant fabrics other than resin-finished were not collected prior to 1958.

Cotton Broadwoven Production Shows 7% Increase In 1959 As Compared With 1958

Production of cotton broad woven goods in 1959 amounted to 9,599 million linear yards. This represents an increase of 7% from the 1958 level and almost 1% from the 1957 level.

Production of each of the major fabric classes exceeded the 1958 output. Sheeting yarn fabrics and cloth output increased 12%, fine cotton goods production increased 11% while the production of the other classes of fabric were 1 to 8% above the comparable 1958 level. However, the 1958 output for print cloth fabric, colored yarn fabric and napped fabric were all below the 1957 levels.

All figures are from the U. S. Bureau of the Census.

Summary of Production of Cotton Broad Woven Fabrics By Class of Fabric

Type of goods	1959	1958	1957	1956	1954
	Thousands of linear yards				
Cotton broad woven goods, total	9,598,796	8,973,704	9,533,764	10,317,071	9,890,498
Duck and allied fabrics	223,462	200,212	219,692	255,471	239,819
Sheeting and allied coarse and medium yarn fabrics	2,594,819	2,310,774	2,507,770	2,668,090	2,493,582
Print cloth yarn fabrics	3,382,849	3,339,005	3,736,448	3,888,122	4,039,169
Colored yarn fabrics	519,731	484,951	533,051	625,328	738,617
Towels, toweling and dishcloths	571,626	534,849	540,739	562,638	455,088
Napped fabrics, blankets and blanketing	205,87	195,750	209,200	240,844	233,143
Fine cotton fabrics	1,608,680	1,453,437	1,337,002	1,517,982	1,244,336
Other woven cotton fabrics and specialties	491,759	454,726	429,862	558,596	447,194

1959 Production Of Man-Made Fiber Broadwoven Goods Increases 5%

The production of man-made fiber and silk broad woven fabrics totaled 2,499 million linear yards in 1959. This was 5% higher than the 1958 output of 2,383 million linear yards and 9% above the 1957 production.

Rayon and acetate broad woven fabric production was 1,618 million linear yards. This compares with 1958 and 1957 production of 1,654 and 1,464 million linear yards, respectively. The 1959 production of 100% filament rayon and acetate yarn fabrics was 4% below the 1958 and 1957 levels. The production of 100% spun rayon and acetate yarn fabrics amounted to 309 million linear yards.

Other man-made fiber fabric production including silk in 1959 increased to 881 million linear yards from the 1958 level of 729 million linear yards and the 1957 output of 825 million yards.

Production of Man-Made Fiber and Silk Broad Woven Fabrics

(Thousands of linear yards)

Type of fabric	1959	1958	1957	1956	1954
Man-made fiber and silk broad woven fabrics, total	2,498,969	2,383,486	2,289,304	2,289,653	2,342,860
Rayon and acetate broad woven fabrics, total	1,618,403	1,654,120	1,463,894	1,626,047	1,730,904
Blanketing	55,955	43,876	38,636	44,286	†
100% filament rayon and/or acetate fabrics	666,537	697,572	691,188	790,113	848,314
100% spun rayon and/or acetate fabrics	308,941	419,714	281,820	351,474	445,485
Combination filament and spun rayon and/or acetate fabrics	121,437	121,811	107,192	107,776	118,876
Pile, upholstery, drapery, tapestry, and tie fabrics	190,185	156,804	144,413	114,889	87,906
All other rayon and/or acetate mixtures	275,348	214,343	200,645	217,509	230,327
Man-made fiber fabrics, except rayon and acetate	836,277	694,467	783,220	663,606	611,956
Silk and other broad woven fabrics, not elsewhere classified	44,289	34,899	42,190	*	*

†Prior to 1956, data for "Blanketing" were not collected separately. *Silk included in man-made fiber total.

Textile-Electrical Conference Set For N. C. State College, November 10-11

The American Institute of Electrical Engineers has announced plans for its annual conference dealing with "Electrical Application in the Textile Industry." The conference will be held November 10-11 at North Carolina State College in Raleigh.

The first presentation will be "A Look at the Recommended Practices for Electrical Installations on Textile Machinery." This look will be taken by a consulting engineer, Dan McConnell; by a machinery manufacturer, R. H. Clark; and by a user, H. S. Colbath, Bibb Mfg. Co., Macon, Ga.

The second presentation is entitled "Warper Drive Systems" and will deal with the several different types of drive systems which have been used over the years to compensate for build-up in diameter of the warp beam being wound.

C. D. Beck of the General Electric Co. will discuss "Silicon Controlled-Rectifiers for Regulators," a newly developed semi-conductor device.

Other presentations include: "New Electrical Applications Through Textile Research"; "Electrical Instrumentation in Dynamic Balancing"; "Stroboscopic Instruments and Their Applications in the Textile Plant"; "Application and Types of Positioning Motors, Including Electronic and Humidity Control Systems"; "Magnetic Amplifier Drives"; "Textile School Research"; and the "Use of Metallic Raceways for Grounding in Distribution Systems."

The hours for the program are from 1:30 to 5 p.m. on Thursday and from 9 a.m. until early afternoon on Friday. A social hour and banquet will be held Thursday night and a luncheon will be served on Friday.

Short Course In Quality Control Set For Charlotte Oct. 31-Nov. 29

A short course in textile quality control will be held in Charlotte, N. C., on Mondays and Tuesdays from October 31 through November 29 by the North Carolina Textile Manufacturers Association and the School of Textiles of North Carolina State College, Raleigh.

The classes have been set up following the successful reception given a monthly quality control bulletin recently inaugurated by Prof. D. S. Hamby of the textile school. The classes will be under the direction of Professor Hamby. Full-time instructors will be Prof. E. B. Grover, head of the department of textile technology, and Prof. W. C. Stuckey Jr. of the same department.

All classes will be held at the Holiday Inn Motel and will run from 3 until 9 p.m. with time out for supper. The registration fee will be $100 and participants will be provided with the necessary books and other materials.

August Cotton Consumption Up Over July, But Down From August 1959

Consumption of cotton in the U. S. in August totalled 684,519 running bales as compared with 561,874 bales in July and 713,022 bales in August of 1959, according to the U. S. Bureau of the Census. The daily average consumption in August was 34,226 running bales as compared with 28,094 running bales in July and 35,651 running bales in August of last year.

Total stocks of cotton at the end of August were 7.1 mil-

lion bales as compared with 7.3 million bales in July and 8.5 million bales in the previous August.

Consumption of foreign cotton totalled 7,386 bales in August as compared with 5,590 bales in the previous month and 8,616 bales in August of last year.

Man-made fiber staple consumption totalled 38,013,000 pounds as compared with 34,174,000 pounds in July and 40,685,000 pounds in August 1959.

At the end of August 19,961,000 cotton-system spindles were in place. At the end of July some 19,956,000 spindles were in place and at the end of August 1959 20,277,000 cotton-system spindles were in place.

The spindles were operated 9,418 million hours in August as compared with 7,933 million hours in July and 9,766 million hours in August of last year.

Carded Yarn Association To Meet In Asheville, N. C., October 20-21

The Carded Yarn Association has set the program for its convention at Grove Park Inn, Asheville, N. C., October 20-21. The convention will open Thursday morning with the annual industry group breakfasts and the annual meeting. At the opening session, officers and seven new directors to serve two-year terms will be elected. The board of directors meeting will follow.

Thursday afternoon is open for golf and recreation. In the evening there will be a reception and a cook-out.

Dr. W. Kenneth Goodson, pastor of the First Methodist Church of Charlotte, N. C., will be the principal speaker at the open business session Friday morning. The golf tournament will be held Friday afternoon. Harold Muller of L. P. Muller Co., Philadelphia, and president of the Association of Yarn Distributors, will be host at a reception in the evening. The annual banquet will follow.

If precedent is followed, E. Leonard Moretz, Carolina Mills, Maiden, N. C., will be elected president to succeed L. E. Bowen, Tifton (Ga.) Cotton Mills; and W. R. Austin, Avondale Mills, Sylacauga, Ala., will be named first vice-president, succeeding Moretz. A new second vice-president will be elected.

Fiber Society Sets Its Fall Meeting For October 27-28, Washington, D. C.

The Fiber Society has announced details of the technical program for its Fall meeting to be held at the Washington Hotel, Washington, D. C., October 27 and 28.

Chairman of the opening session will be William Barnard, Chicopee Mfg. Corp., Milltown, N. J. He will introduce Rollin S. Orr, Southern Regional Research Laboratory, New Orleans, La., who will discuss the "Effects of Inherent Fiber Properties and Methods of Resin Treatments on the Physical Properties of Cotton Fibers and Yarns." Also during the first session, A. M. Schwartz, Harris Research Laboratories Inc., Washington, D. C., will give a presentation on "The Penetration of Fabrics by Individual Droplets of Organic Liquids."

The second session will be chaired by Norbert Enrick, Institute of Textile Technology, Charlottesville, Va., and will feature "Operations Research on the Service Life of Textile Products," by Stanley Backer, Massachusetts Insti-

tute of Technology, Cambridge, Mass.

The morning session of Friday, October 28, will have as its chairman Richard Steele, Rohm & Haas Co., Philadelphia, Pa., and will include the following discussions: "Principles of Wet Processing," by Bertil Olofsson, Swedish Institute for Textile Research, Gothenburg, Sweden; and the "Dyeing Rate Studies of Acrylic Fibers" by B. L. Holmes, American Cyanamid Co., Pensacola, Fla.

The Friday afternoon session will have as its chairman Lionel Cox, Johnson & Johnson Ltd., Montreal, Canada. Technical presentations will be: "Effect of Elongation and Temperature on the Recovery Behavior of an Experimental Modacrylic Fiber" by George M. Bryant, Union Carbide Chemicals Co., South Charleston, W. Va.; and "Stiffness and Resilience of Viscose Rayon as a Function of Swelling and Temperature" by R. A. Gill, Rohm & Haas Co., Philadelphia, Pa.

Second Quarter Textile Mill Profits Down From First Quarter And Last Year

The latest data from the Securities Exchange Commission indicate that profits after taxes of textile mill product manufacturing operations were lower in the second quarter of this year than during the preceding quarter or the second quarter of 1959.

The commission reported that profits after taxes for these firms dropped to $86 million in April-June from $93 million in the previous quarter and $110 million in the like 1959 quarter.

Corporations manufacturing apparel and other finished textile products had profits totalling $33 million after taxes in the second quarter compared with $25 million in the first quarter and $36 million in the second quarter of last year.

After-tax profits of all manufacturing corporations durthe second quarter totalled $4.1 billion as compared with $3.9 billion in the previous quarter and $4.9 billion in the first quarter of 1959.

Textile Research Institute Announces Its Schedule Of Seminars For Fall

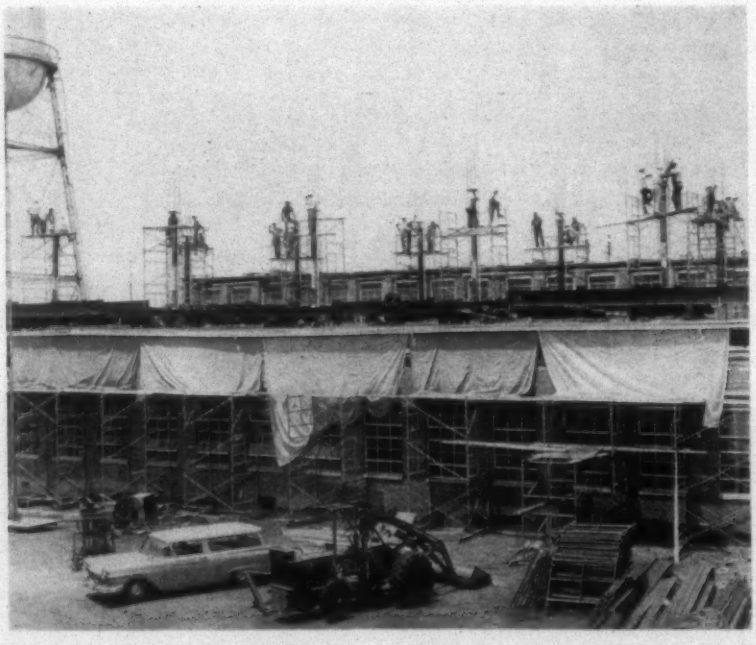
The Textile Research Institute, Princeton, N. J., has announced its seminar schedule for the Fall. All seminars will be held in the Edward T. Pickard seminar room at the institute at 2:30 p.m. Each date listed is a Thursday.

Following are the dates, papers and authors:

October 20—"Volume Changes Accompanying Acid-Base Reactions of Protein Fibers," D. D. Kasarda, Textile Research Institute. Information concerning the state and the interactions of certain side chain groups in protein fibers is deduced from dilatometric measurements. Volume changes, which are related to the change in the degree of

Henderson Cotton Mills Raises Its Roof

Second Floor Added With No Work Stoppage



Hand jacks were used in extended interior columns to lift the 200-ton roof 15 feet for the addition of another floor.

IN an unusual construction operation, the roof of the Henderson Cotton Mills, Henderson, N. C., was raised recently in order to put an additional story under it. It was discovered that the roof was not suitable for conversion to the floor of the new story since it was sloping; the structural steel had less than half the load capacity required for a new story; and the wooden decking was not thick enough to carry floor loads.

The decision was made to raise the roof. However a new method was needed since the conventional method would have required the use of the entire floor area below and about 100 lift points. This would have taken a large amount of equipment, personnel and time.

A new system was worked out by the building contractor that would enable the roof to be raised the desired 15 feet in one day. Existing columns were replaced with larger columns and column footings were enlarged to carry the additional floor load. A network of steel beams and bracing rods was placed beneath the roof in order to brace the columns as the roof was lifted.

The lift was made from the tops of ten interior columns using hand-operated jacks. It was successfully completed at the beginning of the mill's Summer vacation week. By the end of the week the second floor steel had been erected, the floor decking was in place and the automatic sprinkler system was in.

The new floor is part of a $400,000 expansion program which is itself only part of a long-range expansion program, according to John D. Cooper Jr., Henderson president. *(Photo courtesy* Henderson Daily Dispatch; *from a story by William B. Dennis, city editor)*

solution of the groups, were measured for human hair and wool.

November 10—"Mechanism of Deformation in Polyamide Fibers," William F. McDevit, The Du Pont Co., Wilmington, Del. The mechanical properties of oriented fibers prepared from polyamide will be related to molecular structure, molecular motion and molecular packing. Such factors as separation distance of the peptide group and the introduction of phenyl groups will be discussed.

November 17—"Configuration Set and Recovery of Some Textile Yarns and Fibers," J. L. Riley, Summit (N. J.) Research Laboratories of the Celanese Corp. The tendency to assume and recover from configurational set under a variety of conditions has been measured for several textile yarns and related to some aspects of fabric performance.

December 8—"Acrylic Fiber Structure and Properties as a Function of the Coagulation System," A. B. Craig and J. P. Knudsen, Chemstrand Research Center, Durham, N. C. The fine structure of acrylic fiber samples taken at various stages in the spinning operation has been studied by optical and electron microscopy, density measurements, surface area determinations and X-ray diffraction.

January 12—"Chemical Reactions of Cellulose and Cellulose Derivatives," R. F. Schwenker Jr., Textile Research Institute. Discussion of the mesylation and tosylation of cellulose and the subsequent exchange reactions of these derivatives. The formation, structure and reactivity of sodium cellulosates will also be discussed.

The opening seminar in the series was held on September 23, and dealt with "Unidentified Sulphur Compounds in Wool Hydrolysates," by A. Robson, Wool Industries Research Association, Leeds, England.

1959 Woolen And Worsted Production Shows Increase As Compared With 1958

Annual production of woolen and worsted fabrics increased in 1959 to 311 million linear yards from the 1958 level of 271 million linear yards and the 1957 output of 294 million linear yards, according to the Bureau of the Census.

Output of women's and children's clothing fabric in 1959 increased to 169 million linear yards from the 1958 level of 150 million. The production in 1959 was greater than that reported for any year since 1950. Production of men's and boys' clothing fabric in 1959 amounted to 133 million linear yards. This was 24% higher than the previous year's output and 3% above the 1957 level.

During 1959 looms in place at mills primarily producing woolen and worsted fabrics decreased by 1% to 13,526 looms. This decrease continues the trend since World War II.

Woolen and Worsted Fabric Production—1954-1959

Type of goods†	1959	1958	1957	1956	1954
	Thousands of finished linear yards‡				
Woolen and worsted fabrics (except felts), total	310,831	271,340	294,490	324,358	284,231
Apparel fabrics	303,466	262,216	282,931	312,611	262,369
Government orders	1,629	5,022	4,916	2,262	872
Men's and boys' clothing	132,772	107,271	129,136	154,674	123,197
Women's and children's clothing	169,065	149,923	148,879	155,675	138,300
Non-apparel fabrics	7,365	9,124	11,559	11,747	21,862
	Thousands of pounds				
Woven felts	9,645	8,340	8,933	10,979	9,849

†Fabrics wholly or chiefly by weight of wool, reused wool, reprocessed wool or other animal fibers.
‡Blanketing in 72-inch width or equivalent. Other fabrics in 54 to 60-inch widths or equivalent 54-inch width.

July Textile Exports And Imports Show Drop In Value From June

Imports of textile fibers and manufactures for July were valued at $113.9 million as compared with $116.4 million in June. Exports of domestic textile manufactures and fibers to other countries in July totalled $147.6 million as compared with $122.5 million in June.

What Superintendents Expect

(Continued from Page 39)

cedures would entail a very heavy cost. We were compromising between costs and quality and in this case quality won out. We based our program on checking a limited number of units per day and got around to all the cards at about three-month intervals. Now, thanks to an alert quality control operation, we check non-uniformity on each card once per month. Combers and drawing are checked weekly—every single delivery. Due to a new instrument, we utilize about 25 man-hours per week to do this work while the unit is running—and without making waste of product or of machine time. This tester has been found to be very helpful on our sliver making machines. If we don't like what we get, we leave the tester on the delivery in question, make our adjustment, get our new reading, and if all right, pass on to the next machine. Any unit making out-of-control readings is sampled in conventional fashion, the stock being sent to the quality control department where it is checked on a conventional sliver tester. If it comes up bad, out goes a pair of yellow tickets.

Wide Range Of Fabrics

Our range of fabrics covers a very wide latitude. To keep up with what is going on the looms we have a program as follows: Each time the construction of the cloth is changed in any way, the first yard woven is cut off and sent to the laboratory. Here is a very important quality control function, for with a careful analysis of the fabric, a possible slip-up can be corrected before an error can commit any great portion of cloth to exactly what the customer did not order. At the same time we know exactly what style cloth that particular loom is running—and tie this in with our loom scheduling, also handled by this same department. In the scheduling of the fabric to be woven, a printed ticket is filled out by the quality control department, showing all pertinent details such as yards in warp, counts of warp and filling, reed number, picks per inch and pick gear, and other details. As a result there are very few occasions where the quality control department has to chase out and get the word to the boss weaver that "somebody made a boo boo!"

Problem Of Uneven Size

About a year ago, we were dismayed to find that while our equipment in the slasher room was fairly new, we were making uneven size with attendant weaving difficulties. A tremendous amount of work was done under the direction of our quality control department in order to find first what was wrong and then point this out for supervisory action. In this connection, I would like to put in a plug for the Institute of Textile Technology which supplied a student who did practically all of the leg work and testing in this area.

We had several cooking and storage kettles which were all set to empirical standards. Nonetheless a study using thermometers, viscosimeters, Zahn cups, stop watches and other paraphernalia was begun. This was continued for one full Summer and on the whole we think a good constructive effort, on the part of all parties concerned, resulted in a marked reduction in the variation of the size added to the yarn. We started out with too wide a spread across the width of the warp, with too wide a spread between warps of the same construction made on different slashers. We also found too much variation existing due to faulty instrumentation, steam coils having too large a hole for the steam to escape while cooking, and steam lines that simply didn't pass through the amount of steam for which they were engineered.

Defects of this nature were not too difficult to overcome. We replaced the steam coils in the cooking kettle using a hole of normal size bored at a 30° angle, which directed the blast of incoming steam at the bottom of the kettle. In this way we gained a great deal of help from "lumping."

Present day bulk starch handling systems are heading in the direction of a "densified pellet." This is a pellet which is compressed and weighs more than the standard pellet, hence takes less space in shipping and storing—saving money on both.

We also found the usual rolls which needed buffing and the worn parts that had been in use too long (due to the vender being on a six-month strike). The size man who was adding the compound while the mix was still cold was retrained to add the compound just before the boiling point was reached. Then we found that to insure size not being too thin, our people had been bringing the water to three-fourths level and adding the remaining 25% when the size was cooked. Since cold water added to hot size will do it no good, we decided to settle on the exact 100% being put in at the beginning of the mix, after making sure our steam lines were well trapped and no wet steam allowed to dilute the mix. Since we make more than one mix we posted the make-up of each, so that the size man—or the spare hand taking his place—would have full directions always on hand.

The Textile Outlook

(Continued from Page 43)

orous merchandising and better handling of short range supply-demand relationships.

(4) Our competitive losses to non-textile items seem to have stabilized and our sales in the apparel field have kept pace with the growing population and economic rise of our population. When these facts are set alongside population expansion and probable economic growth, the textile industry emerges as a growth industry.

No Business Is Easy

We recognize that we have problems. We believe we are finding and will find solutions to them. We know that the road ahead calls for hard work and plenty of ingenuity, but we also know that no business is supposed to be easy anyway. We are justly proud of our industry and the contributions it has made to the welfare of our country. We view with confidence the future opportunities that are available to us and which challenge us to take advantage of them.

Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

E. Kent Swift Jr., formerly director of research at Whitin Machine Works, Whitinsville, Mass., has been given the added responsibility for development engineering in a newly organized development department. Swift, whose new title is vice-president of research and development, will be assisted in the new program by Dr. Zoltan S. Szaloki, newly named director of research, and a director of development as yet to be appointed. Technical specialists will be added to both departments.

Swift

Szaloki

James S. Rotan has been named vice-president of Catlin Farish Co., a division of Burlington Industries and producer of fancy tickings. Rotan, who has been serving as manager of Catlin Farish plants at Batesburg and Lexington, S. C., will continue to maintain his headquarters at Batesburg. A graduate of North Carolina State College, he received specialized training at Purdue University and Clemson College. He joined Burlington in September 1947.

American Enka Corp., Enka, N. C., has announced the appointments of Henry G. Heedy as assistant director of market development and Donald J. Godehn as director of the marketing technical department. Heedy, who has been with the company since 1946, has been serving as manager of the company's rayon staple plant at Loweland, Tenn., and Godehn was formerly manager of the textile research department. In his new assignment, Heedy will be engaged in carrying out special assignments in the marketing division. Godehn, who also joined Enka in 1946, will plan and co-ordinate all technical service and product development activities for the marketing division. He is responsible for the development of new end uses for existing products and exploring opportunities for new products.

Joseph H. Sutherland, president of Kimberly-Stevens Corp., New York City, since its founding last year, has been named chairman of the board. H. T. Rindal, vice-president of production, succeeds Sutherland as president. William K. Saunders, sales manager of industrial products, has been named a vice-president of merchandising sales.

John W. Brownley has been named vice-president, manufacturing, for the Industrial Rayon Corp., Cleveland, Ohio. Brownley, who has served as production manager for the past year, succeeds I. T. Meyer who has retired from the company. Before joining Industrial Rayon, Brownley was vice-president of Industrias Consolidadas de Matanzas, major rayon producer in Cuba.

J. Edward Dempsey has been named assistant manager of The Du Pont Co.'s New York consulting service for dyeing and finishing. Succeeding Dempsey as assistant manager of the division's Chicago district sales office will be F. L. Shackelford Jr., who has recently returned to this country from an assignment with the Du Pont Mexican subsidiaries. Dempsey joined Du Pont's dyes and chemicals division as a laboratory assistant in 1932. He was appointed assistant manager of the Chicago district for the dyes and chemicals division in 1958. Shackelford joined the company's organic chemicals division in 1939 as an analytical chemist and subsequently held supervisory positions in dyestuffs intermediates production. He became chemicals sales manager of the dyes and chemicals division in 1954. From 1956 until June of this year, Shackelford was in Mexico as an administrative officer of two Du Pont operating firms in that country.

Kennedy

Harry R. Kennedy has been named director of research and product development for Southern Machinery Co., Greenville, S. C. Kennedy joined Southern Machinery in July after four years with Leesona Corp., Providence, R. I. From 1949 to 1953 he served with the research and training division of J. P. Stevens & Co., Greensboro, N. C. He has also been connected with Brush Electronics in the textile instrument division.

Geoffrey D. Roberts has joined Cone Mills Corp. as superintendent of its Proximity Print Works plant, Greensboro, N. C., replacing George Brandt who has resigned. Roberts was previously associated with the Eddystone, Pa., plant of Joseph Bancroft & Sons.

Tom Quealy has been named to the staff of Becco Chemical Division of Food Machinery & Chemical Corp., New York City, as technical representative to the textile industry. Quealy will demonstrate the latest developments in Becco processes as they are perfected by the company's research and development center.

Jack Udis, vice-president of Reeves Bros., New York City, has been named head of the greige goods department. Assisting him will be Tobe Garrett and William Ariail. Garrett will handle greige goods for Reeves' Eagle & Phoenix Mills in Columbia, Ga. Ariail will have similar responsibilities with Reeves' mills in the Spartanburg, S. C., area. They will maintain their offices in Reeves Bros.' New York City headquarters.

William Oscar Cate, a veteran of 41 years in the cotton business, is retiring as president of Burlington Cotton Co., Greenville, S. C. Willis A. Barber, formerly vice-president, succeeds Cate as president. Cate will continue with the firm in an advisory and consultant capacity and will supervise the company's cotton purchases in the El Paso, Tex., area. Cate joined the textile industry as an

assistant classer with the R. F. Willingham Cotton Co. in 1919. He served as assistant buyer and classer for Brookside Mills from 1922 to 1926, when he became buyer and head classer for Cooper & Griffin. He served in a similar capacity for George H. McFadden Bros. until 1951 when he became president of the present Burlington Cotton Co.

Frank D. Dodds has resigned as president of Artloom Carpet Co., Philadelphia, Pa., division of Trans-United Industries. Dodds has also resigned as an officer and director of the parent company. Artloom operates Greenville (N. C.) Mills as a subsidiary.

Vernon A. Brewer, vice-president of Wilson Lewith Machinery Corp., Charlotte, N. C., has been promoted to executive vice-president. Brewer has been with the company for 14 years. . . . Fred Connell has been promoted from general manager to vice-president. He has been with Wilson Lewith for two years. . . . Jesse Dodgen has been named general manager. He is a graduate of the North Carolina Vocational Textile School and has had 13 years of experience in the textile machinery field. . . . W. D. Dodgen, technical engineer, has joined the staff as assistant general manager. Dodgen's previous experience includes service as a mill superintendent.

Peter A. Wilson has been appointed sales representative in Virginia for Stanley Steel Strapping, division of The Stanley Works, New Britain, Conn.

Frank R. Rochow has been named plant manager of the new Schelgel Mfg. Co.'s industrial textile plant located at Chester, S. C. Rochow will be responsible for all production operations at the 55,000-square-foot air-conditioned plant which will produce a specialty line of narrow fabric textiles. Rochow joined Schlegel in 1954 as a

Rochow

Jordan

member of the sales staff and was named plant suprintendent in 1957. . . . Charles L. Jordan has been named assistant plant manager of the new facility. Jordan joined Schlegel as a management trainee in 1953 and has most recently served in an industrial engineering capacity. He attended Rochester Institute of Technology and the University of Rochester.

William Ray Rogers has joined the sales staff of the F. A. Young Machine Co., Gastonia, N. C. Rogers was formerly superintendent of carding and spinning and knitting for the Holt-Williamson Mfg. Co. of Fayetteville, N. C.

Ernest Folger Jr. has been named divisional controller of the cotton division of J. P. Stevens & Co. In his new position Folger and Julian Rivers, comptroller of the Stevens Co., will collaborate in co-ordinating all accounting activities in the 22 plants of the division. Folger began his textile career at Stevens' Dunean Plant, Greenville, S. C., in March 1936 in the accounting department. He has held various positions of responsibility with Stevens since that time, including office manager of Dunean, assistant treasurer of Dunean, and assistant secretary of Stevens, which office he continues to hold.

Squires

Cecil J. Squires has been appointed superintendent of Manneta Mills of Monroe, N. C. Squires was formerly overseer of weaving at the Proximity Plant of Cone Mills, Greensboro, N. C. Prior to that he was associated with Dan River Mills of Danville, Va.

Jerome E. Levy has been named sales manager of the textile chemicals division of Sonneborn Chemical & Refining Corp., New York City. Levy succeeds Dr. Lux Sonneborn, who is retiring from active participation in the company, but who will remain as a consultant. Levy was previously assistant sales manager of the textile chemicals division.

Ennis P. Whitley, vice-president for distribution of The Dobeckmun Co., a division of The Dow Chemical Co., Cleveland, Ohio, is retiring. A vice-president for the past 9½ years, Whitley joined Dobeckmun in 1945 as general sales manager, after having been associated with the American Seating Co. of Grand Rapids, Mich., for 23 years. He played a major role in the introduction and subsequent marketing program of Lurex, the Dobeckmun-developed, nontarnishing, metallic yarn.

W. J. Childers has been named superintendent of the Lexington, N. C., plant of Frank Ix & Sons. Childers succeeds Frank Kelly who has joined the Drakes Plant of Pacific Mills of Burlington Industries in Drakes Branch, Va.

E. M. (Mack) Salley Jr. has retired as plant manager of American Enka's plant at Enka, N. C. Salley has been with the company since 1929 and had served as plant manager since 1950.

Norman F. Garrett, vice-president of Whitin Machine Works and general manager of its Whitinsville Division, has been named executive vice-president of the corporation. Garrett, a graduate of Wharton School of the University of Pennsylvania, formerly was vice-president, manufacturing, of the Crane Co., Chicago, Ill.; and vice-president, operations, Motor Products Corp., Detroit, Mich.

Samuel L. Fuller has joined the staff of the industrial merchandising and product development department of American Viscose Corp. in New York. For the past five years Fuller has been a member of the technical section of the sales division of the textile fibers department of The Du Pont Co., Wilmington, Del. Fuller is a graduate of Lowell Tech with a B.S. degree in textile engineering.

E. Grady Sinclair Jr. has been named Southern district manager for the L. H. Shingle Co., manufacturer of industrial leather products. Sinclair is a native Tar Heel, a graduate of North Carolina State College, and has been identified with the production of industrial leathers for over 25 years. His experience includes product research, quality control, and field sales engineering. Shingle's Southern headquarters are at 14 Woodfern Circle, Greenville, S. C.

Pilkington

James Pilkington has been named director of application and technical service for Eastern Color & Chemical Co., Providence, R. I. Prior to assuming his new post, Pilkington was associated with the Riveredge Printers Inc. of Fall River, Mass. He served with this firm for 14 years as chief chemist and technical advisor. Earlier, he was employed by the United Merchants & Manufacturers as chemist, chief chemist and night superintendent at its Arkwright Corp., Clearwater (S C.) Print Works and Davis Screen Print Plant, Fall River.

Paul A. Rogers, assistant manager of Pacific Columbia Mills, Columbia, S. C., has been named manager to succeed Thomas E. Lawson, vice-president and general manager, who has resigned. Rogers joined Pacific Columbia in 1927. He was named head of standards in 1944, and in 1954 he became director of standards for the Southern division of Pacific Mills, including four plants in Columbia, one at Lyman, S. C., and two at Rhodhiss, N. C. He was named assistant to the vice-president in charge of the Southern division in 1955, and following Pacific's purchase by the Lowenstein group in 1955, he was made assistant man-

ager of the Pacific Columbia group. . . . Pratt Ellington, who has been with Lowenstein's Huntsville (Ala.) Mfg. Co. the past six years, has been named general superintendent of Pacific Columbia under Rogers. Ellington served with Pacific Columbia from 1942 to 1954, and was superintendent of the Olympia Plant at the time of his transfer to Huntsville. Continuing as heads of the four Columbia plants are Harry Shealy, superintendent of Olympia; Raymond Goodman, superintendent of Granby; John Wingard, superintendent of Richland; and Odell Arledge, overseer of Capital City. Martin Mickie is manager of the towel manufacturing operation.

Lowenstein

Leon Lowenstein, chairman of the board of M. Lowenstein & Sons, New York City, has been named to receive the annual award of the Textile Section of the New York Board of Trade. The award, for outstanding service to the textile industry, will be presented November 10 at a luncheon meeting in the Hotel Pierre.

Alpaslan M. Purut, field technical service representative in dyeing and finishing for the fibers division of American Cyanamid Co., has been transferred to the company's Charlotte office. The move is in keeping with the company's plans for expanding sales and service operations for its Creslan acrylic fiber in the Southern textile area. Purut joined Cyanamid in September 1959. Up until the present assignment he has been located in Cyanamid's plant in Bound Brook, N. J., where the fibers division operates a fiber applications laboratory and dyeing and finishing field technical service facilities. A native of Turkey, Purut holds B.S. and M.S. degrees in textile chemistry from North Carolina State College.

Gus Bryson has joined White Bearings Co., Charlotte, N. C., in engineering sales. Previously Bryson was industrial sales representative for the Graton & Knight Co. A graduate of Wake Forest College, he was located in Birmingham, Ala., and most recently Charlotte. In his new post he will continue to operate from Charlotte.

J. Manley Phillips, assistant superintendent of Plants No. 4 and 5 of Greenwood (S. C.) Mills has been named superintendent of the company's new Sloan Plant at Ninety Six, S. C. Phillips has been with Greenwood since 1927 and has served in various capacities from loomfixer to assistant superintendent.

Izzo

Raphael Izzo, prominent in the field of textile technology, has joined the staff of the United States Testing Co., Hoboken, N. J., and will supervise a number of fabric inspection programs. Izzo has had wide experience as a designer, stylist and laboratory director in the textile industry.

Harold A. McKew has been named superintendent of the Cartersville, Ga., plant of the Goodyear Tire & Rubber Co., succeeding Walter E. Floyd, who is retiring. McKew has worked at all three of Goodyear's plants in Cartersville, Cedartown and Rockmart, Ga., and has also served on special assignment with Goodyear in Sao Paulo, Brazil, where he was plant manager.

Bulger

F. Emanuel Bulger has joined Ideal Machine Shops, Bessemer City, N. C., as a sales representative in spindle and flyer service, covering Georgia and Alabama. He was formerly superintendent of Forsyth (Ga.) Mills. Prior to that he served in a supervisory capacity at Avondale Mills, Lafayette, Ala.; Hyde Park Mills, Covington, Tenn.; and Dan River Mills—Alabama Division.

Erik O. Pierson has been named works manager of the Saco-Lowell automotive division, Saco, Me. Pierson formerly was vice-president and works manager of Whitin Machine Works. A graduate mechanical engineering from Rensselaer Polytechnic Institute, Pierson has worked in engineering, manufacturing and sales with the Arkwright Corp., Barnes Textile Associates and Whitin Machine Works for 27 years.

OBITUARIES

Henry M. Boshamer, 72, founder of H. M. Boshamer Co., Philadelphia, Pa., cotton yarn distributor, died September 13. He had been connected with the textile industry for over 25 years. He was a partner in the Clover (S. C.) Spinning Mills Co. until he formed his own company in 1948. Mr. Boshamer is survived by two brothers.

R. O. Cobb, 60, retired superintendent of the old Lafayette (Ga.) Cotton Mills, died September 11 in a Smyrna, Ga., hospital. Mr. Cobb joined Lafayette in 1936 as night superintendent and retired in 1950. Earlier he was with Springs Cotton Mills, Lancaster, S. C. Surviving are his widow, a daughter and a son.

Luther A. Elmore, 68, retired superintendent of the Rhodhiss (N. C.) Mills division of Pacific Mills of Burlington Industries, died recently. Mr. Elmore was connected with Rhodhiss for 47 years. He leaves his widow, six sons and three daughters.

Roy G. Hemminghaus, 52, vice-president, new product planning, for The Chemstrand Corp., died August 25 at a Ridgewood, N. J., hospital after a brief illness. Hemminghaus joined Chemstrand in December 1950, after completing 20 years service with Monsanto Chemical Co. During his career at Chemstrand, he served as plant manager of the Chemstrand nylon plant at Pensacola, Fla.; vice-president and general manager of manufacturing; and as vice-president, staff services, with headquarters at Decatur, Ala.

William Ray Potter, 41, former vice-president and sales manager of the Dixon Corp., Bristol, R. I., died recently. Mr. Potter retired from the company several years ago because of illness. Survivors include his mother, a sister and a brother.

Robert Reiner, 80, founder and president of Robert Reiner Inc., Weehawken, N. J., manufacturer and importer of textile equipment, died August 22 in a New York City hospital. A native of Germany, Mr. Reiner came to this country in 1899 as a representative of Vomag, manufacturer of shuttle embroidery equipment. He entered the manufacturing field in 1953 with an automatic shuttle embroidery unit. Survivors include his widow, two sons and a daughter.

William H. Richardson, 53, chairman of the board of Palmetto Loom & Reed Co., Greenville, S. C., died September 12 after being involved in an automobile accident. Mr. Richardson was a 1928 graduate of Georgia Tech with a degree in textile engineering. At that time he joined his father in Acme Loom Harness & Reed Co. He was with Acme until 1951 when he formed his own company with Andrew J. White. He is survived by his widow, one son and three daughters.

H. L. Riel, 57, general overseer of the carding and spinning department of the Cedartown, Ga., mill of Goodyear Tire & Rubber Co., died September 1.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

NEW YORK, N. Y.—Reeves Bros. Inc. has taken over the entire manufacturing, laminating and selling of Curon foam for all markets. Curon is a multi-cellular foam for use in quilted interlinings and as a laminate to various shell fabrics. It was developed by Curtis-Wright Corp. In January 1960 Curtiss-Wright appointed Reeves Bros. as sales agents for Curon to the apparel trades. The take-over arrangement is an outright sale of all machinery, inventory, sales contracts and other assets to do with Curon. The major markets for Curon include its use for the padding of rugs, table pads, place mats and similar products, and for bonding to wearing apparel fabrics as insulation. Reeves is planning to move the entire foam making operation from Quehanna, Pa., to a plant in the South at a location convenient to the furniture and carpeting industry. Reeves' present laminating plant in Garfield, N. J., will be expanded and studies are now in progress to set up additional laminating plants wherever deemed necessary.

SPARTANBURG, S. C. — The Beaumont Mills of Spartan Mills, here, has completed the installation of 66 Draper X-P 54" looms in its No. 5 weave room. The looms are weaving sateen and flat duck fabrics. Some 40 sets of metallic card clothing have been installed with plans approved for all of Beaumont's 301 cards to be equipped with the clothing on a gradual basis. Startex Mills, another Spartan plant, has extended 168 looms from 40 to 50 inches in width.

SHELBY, N. C.—Shelby Mills and its selling agent, Iselin-Jefferson Co. of New York City, have announced their plans to enter the field of fiber glass yarn production and distribution. Additional manufacturing space will be built here to house the heat-treat- and finishing unit for fiber glass yarn. Additions and alterations to warping, slashing and weaving equipment are under way to adapt them for the processing of the new yarn. Shelby, which employs some 500 persons, produces largely synthetic drapery fabrics. The emphasis will be on novelty and high style decorative fiber glass fabrics.

JOANNA, S. C.—Joanna Cotton Mills Co. has announced plans to purchase sliver-to-yarn spinning equipment built by O-M Spinning Machine Co., Osaka, Japan. The purchase will involve about 40,000 spindles. The plant has been running a few sample frames for the past six months and 21 more frames are expected by February.

WHITINSVILLE, MASS.—Whitin Machine Works reports the following recent orders from Southern mills for its preparatory equipment. (1) Washington Mills Co., Winston-Salem, N. C., nine Model M6 Even-Draft drawing frames; (2) The Carlton Yarn Mills, Cartex Division, Salisbury, N. C., nine Model M6 Even-Draft drawing frames, two Model H1 Super Lap machines and 12 Model J6 combers; (3) Greenwood (S. C.) Mills, eight Model H1 Super Lap machines; (4) Integrated Products Inc., Rome, Ga., two American System Model M Monarch spinning frames; (5) Ballston Yarn Mills, Lincolnton, N. C., five Model N spinning frames; (6) Blair Mills, Belton, S. C., four Whitin Model M6 Even-Draft drawing frames.

CLOVER, S. C. — Mackintosh Spinning Mill here is undergoing a $450,000 modernization program which is expected to be completed by the end of October. The project includes the addition of 7,000 square feet of space and 2,000 spindles. When it is complete total floor space will be 30,000 square feet and total spindleage will be 6,500. The expansion is being financed by private sources and a Small Business Administration loan.

OAKBORO, N. C.—The outstanding stock of Oakboro Cotton Mills Co. here has been purchased by Tuscarora Cotton Mills of Mt. Pleasant, N. C. James Walker, superintendent of Oakboro, has resigned and will be replaced by John Bry of Oakboro. No other changes in operation or personnel are planned, it was reported. Oakboro employs 76 persons and operates 7,000 spindles in the manufacture of fine combed yarns.

ANDERSON, S. C.—A 30,000-square-foot addition is being built at the Southside Plant of Abney Mills here. The building is expected to cost $137,000.

NEW YORK, N. Y.—The Deering Milliken chain of mills is reported to be negotiating for the purchase of some 30,000 spindles for cotton spinning with Rieter & Co. of Switzerland. The spindles will be used to modernize Gaffney (S. C.) Mfg. Co.

ANNISTON, ALA.—The employees of the Blue Mountain, Ala., plant of Linen Thread Co., a division of Indian Head Mills, rejected representation by the Textile Workers Union of America in a National Labor Relations Board election by a vote of 603 to 310.

JOANNA, S. C. — Some 4,450 persons turned out for the annual Labor Day barbecue for Joanna Cotton Mills employees and their families. The event is sponsored by mill management and the Joanna Foundation. Walter Regnery, vice-president and general manager, thanked employees for "making this the best year Joanna has had in five years."

EASLEY, S. C.—Expansion of the Liberty and Norris Plants of Woodside Mills will be accomplished by the installation of new Saco-Lowell equipment. The Liberty Plant, whose principal product is combed broadcloth, will add Saco-Lowell Model 57 combers, SJ-3H spinning frames, high-speed Versa-Matic drawing, 18 x 42" card coilers, plus miscellaneous opening and picking equipment to give additional capacity in combed goods. The Norris Plant, which specializes in print cloth, will add to the number of Saco-Lowell spinning frames now in use.

THOMASTON, GA.—Substantial improvement in its fiscal year ended June 30 has been reported by Thomaston Cotton Mills. Net earnings for the year, after taxes, were $2.9 million as compared with $2 million in the previous fiscal year. Sales totalled $40.7 million as compared with $36.6 million previously. Operating schedules for the company's plants during the period were at or near capacity levels. The firm reported that the outlook for the next 12 months is not nearly so bright. Demand for goods has slackened and the results for 1961 are not expected to be up to fiscal 1960.

GREENVILLE, S. C.—J. P. Stevens & Co. reports consolidated net sales of $124 million for the three months ended July 30 compared with $113 million for the corresponding three months of last year. Consolidated net earnings for this period, after provision of $3.2 million for income taxes, are estimated at $3.4 million. Net sales for the nine months ended July 30 increased to $368.7 million from $322.4 million for the 1959 period. Since the reported net income for the first nine months of the 1959 fiscal year reflected less than normal provision for federal income taxes (because of the availability of loss carry-overs and other tax deductions) it is not comparable with reported income for the current period, the company reports.

JEFFERSON, S. C.—The carding and spinning rooms of Mill No. 1 of Jefferson Mills here are presently being air-conditioned. Parks-Cramer Co. is installing a 600-ton refrigeration unit to keep the temperature in the departments under 80°. No additional duct work will be necessary since the unit will be installed in connection with the existing humidification and air exchange system. This brings to five the number of departments that have air-conditioning.

SPINDALE, N. C.—Stonecutter Mills Corp. reports an increase in earnings of 24.5% for the fiscal year ended June 30. Net profit for the year was $663,930 after income taxes of $751,797. This compares with net income of $533,199 after taxes of $610,717 in fiscal 1959. Sales figures were not given. Current assets at June 30 were $7.9 million as compared with $6.9 million at the close of fiscal 1959. Current liabilities at the close of the year were $3.7 million against $2.9 million earlier. Inventories totalled $2.1 million as compared with $2.3 million in 1959.

HOGANSVILLE, GA. — The Hogansville Chamber of Commerce recently sponsored a celebration with a barbecue, in honor of employees of the U. S. Rubber Co.'s plants here. The rubber company is the town's largest employer with three plants producing hose and belt ducks, asbestos yarns, fabrics, tufting, carpet and mechanical yarns.

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Vol. 86 OCTOBER 1960 No. 10

textile bulletin

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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Tolerance, Courage, Wisdom

ONE of our favorite little prayers reads: "Lord, give us the tolerance to endure those things we cannot alter, the courage to change that which we cannot bear, and the wisdom to know one from the other."

It was brought to mind recently by the address made by Jackson E. Spears, vice-president of Burlington Industries, before the thirty-fifth annual meeting of the Combed Yarn Spinners Association at Sea Island, Ga.

Commenting on what he terms "a temporary period of some relaxation from last year's fevered activity," Mr. Spears cited three primary causes for the current slow down in operating schedules:

(1) Continuing pressure of imports.
(2) Deterioration of the national economic health and future uncertainties.
(3) Some mild overproduction in relation to actual consumer off-take.

In suggesting what the industry might do to offset these conditions, Mr. Spears spelled out this logic. Lay aside the import problem because it cannot be solved soon enough to offer improvement to the current situation. There isn't much, either, that the industry can do about the national economic climate. That leaves the industry with only the question of supply and demand as its area for implementing immediate corrective action.

As Mr. Spears reported, some major moves in this direction have been made, one notable example being Mr. Spears' own company. Unhappily, however, there have been those mill managements in recent months which have continued to gear operating schedules to available warehousing space. As a result, some of these same mills are operating on short time not as a result of a determination to hold the line against excessive inventories, but more accurately because their warehouses are bulging at the seams. The prospect for some is continued curtailment for some time to come.

This, of course, isn't the picture for the entire industry. Some segments are running as full as a year ago, and there are perhaps those who are running ahead of last year. It is to those that the caution of Mr. Spears' remarks are directed. They are the ones who are to gain most by insuring that current operating schedules are adjusted to true market needs. They must peg their production schedules in terms of *market* capacity, not *productive* capacity. If 100% market capacity constitutes only 80% productive capacity, then the 80% in effect, represents total capacity. That is the formula being applied by sound management. The long range effect will prove it sounder still.

Lest it be falsely concluded that Mr. Spears would abandon the industry's efforts in the political sphere, let it be said that such was certainly not the case. To the contrary he urges continued concentration in this area, and calls attention to the fact that political candidates are currently in their greatest time of easy accessibility. Discouraged as the industry is over its futile efforts to get itself heard at the natonal political conventions, disheartened as it is over the report of the Commerce Department's interagency committee on textile problems, dismayed as it is over the Tariff Commission's findings obtained through hearings on Section 22 of the Agricultural Adjustment Act, the industry has no choice but to keep plugging away. It is not a problem we can live with forever, but one to be tolerated for only as long as it takes to do something about it.

It will take tolerance to endure import problems.

It might even take courage to adjust operating schedules downward.

But common sense should be wisdom enough in choosing which of the two carries with it the most urgency.

Index to Advertisers

TEXTILE INDUSTRY SCHEDULE

Oct. 18-19 (Tu-W)—Technical Advisory Committee and Board of Trustees Meeting, **INSTITUTE OF TEXTILE TECHNOLOGY**, Charlottesville, Va.

Oct. 18-21 (Tu-F)—Fall meeting, **COMMITTEE D-13, A.S.T.M.**, Sheraton-Atlantic Hotel, New York City.

Oct. 19-22 (W-Sa)—Annual meeting, **CARDED YARN ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

Oct. 22 (Sa)—Fall meeting, **ALABAMA TEXTILE EDUCATION FOUNDATION**, Auburn University, Auburn, Ala.

Oct. 22 (Sa)—Fall meeting, **GEORGIA TEXTILE OPERATING EXECUTIVES**, Hightower Building, Georgia Tech, Atlanta.

Oct. 27-28 (Th-F)—Fall meeting, **THE FIBER SOCIETY**, Washington Hotel, Washington, D. C.

Oct. 29 (Sa)—Fall meeting, **EASTERN CAROLINA DIVISION, SOUTHERN TEXTILE ASSOCIATION**, North Carolina State College School of Textiles, Raleigh (Meeting opens 10 a.m.)

Nov. 5 (Sa)—Fall meeting, **NORTHERN NORTH CAROLINA-VIRGINIA DIVISION, SOUTHERN TEXTILE ASSOCIATION**, Proximity School, Summit Avenue, Greensboro, N. C. (Meeting opens 10 a.m.)

Nov. 12 (Sa)—Fall meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES**, Thach Auditorium, Auburn University, Auburn, Ala. (Carding and Spinning Section).

Nov. 12 (Sa)—Annual meeting, **GEORGIA TEXTILE EDUCATION FOUNDATION**, A. French Textile School, Georgia Tech, Atlanta.

— 1961 —

Apr. 26-29 (W-Sa)—Annual meeting, **GEORGIA TEXTILE MANUFACTURERS ASSOCIATION**, Hollywood Beach Hotel, Hollywood, Fla.

May 6 (Sa)—Spring meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES**, Thach Auditorium, Auburn University, Auburn, Ala. (Slashing and Weaving; Meeting opens 10 a.m.)

Oct. 28 (Sa)—Fall meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES**, Thach Auditorium, Auburn University, Auburn, Ala. (Carding and Spinning; Meeting opens 10 a.m.)

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday

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VOL. 86 OCTOBER 1960 NO. 10

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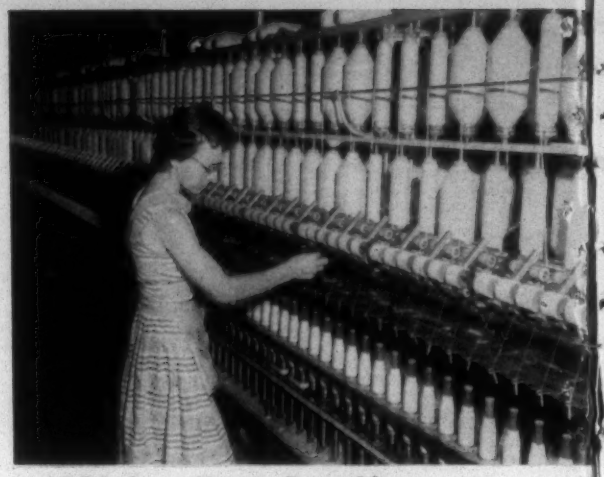
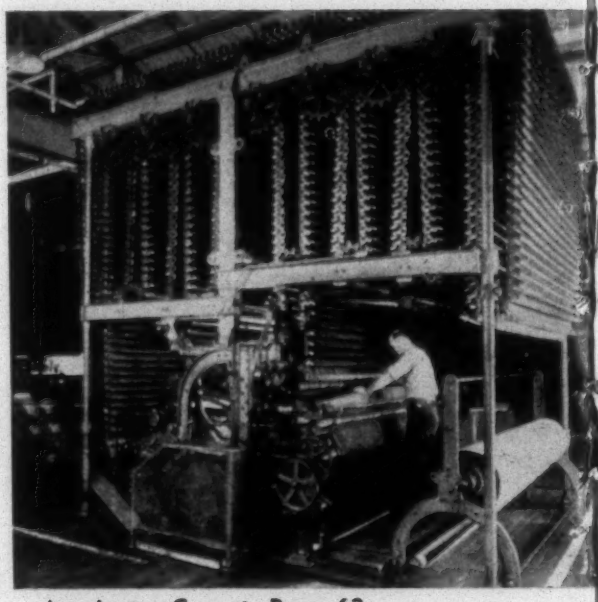
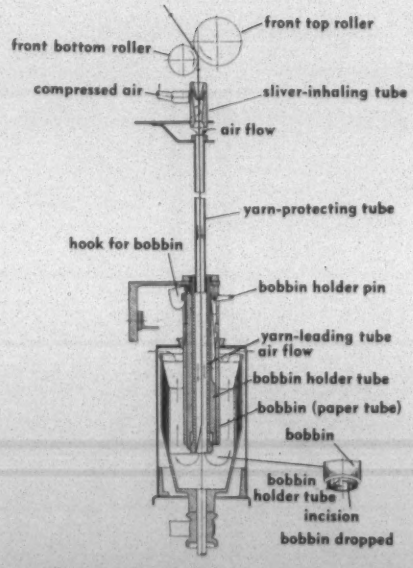


ATCO Open House, Page 44



Axminster Carpet, Page 63



Pot Spinning, Page 72

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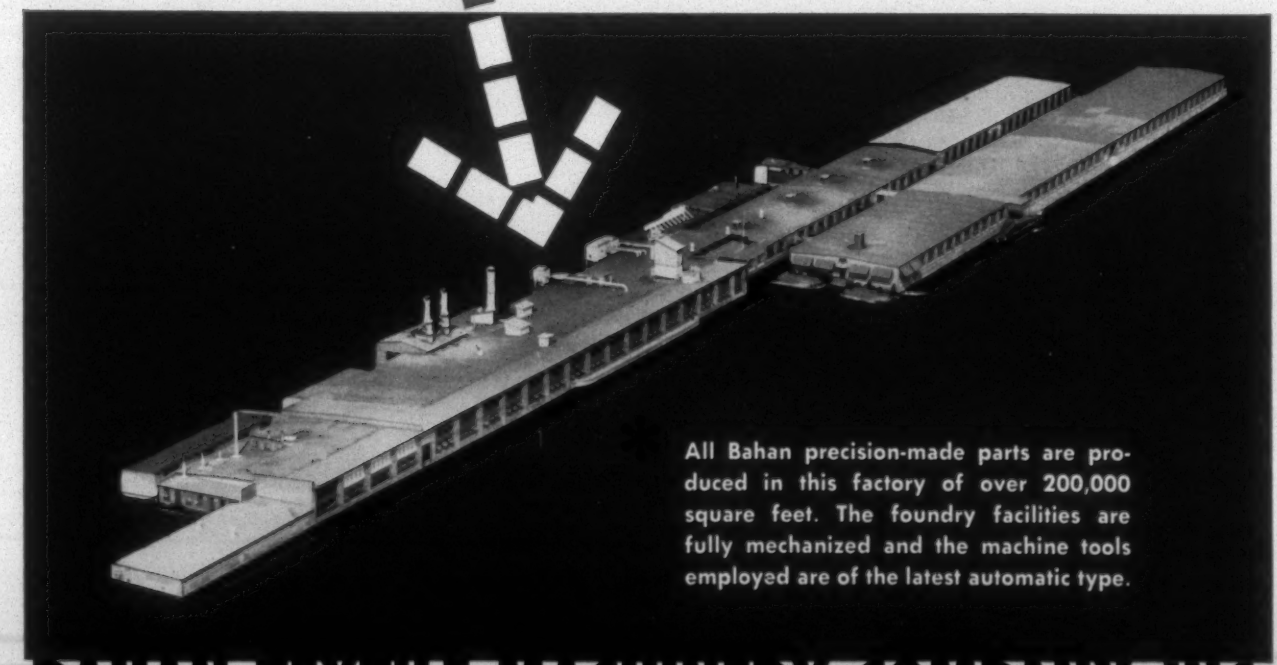

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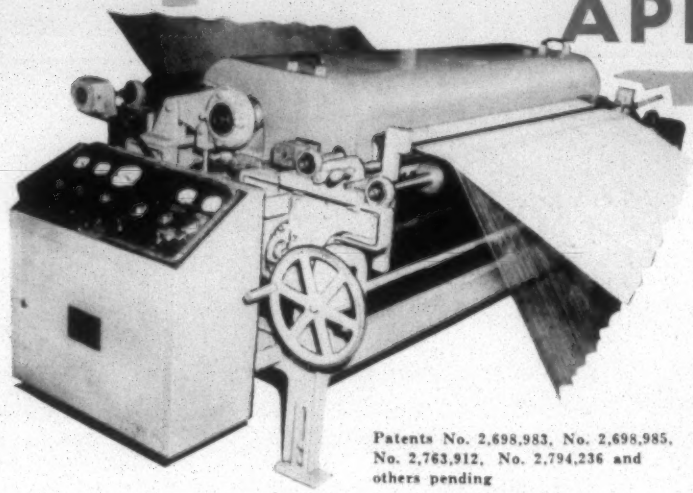

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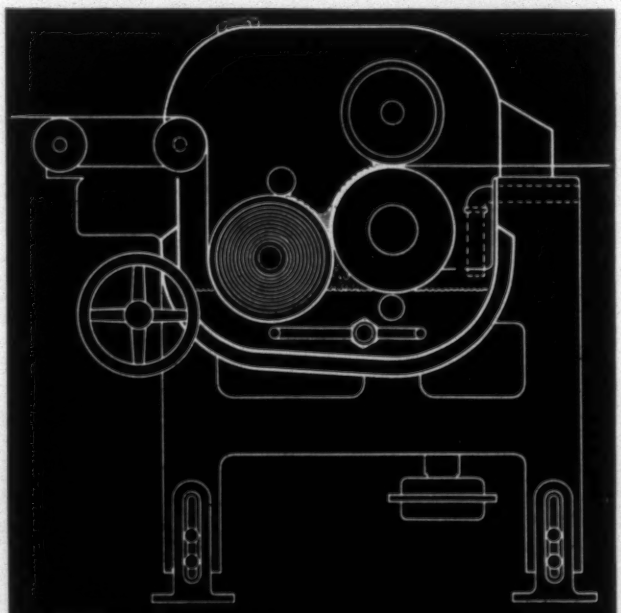

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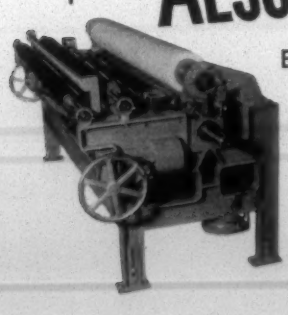

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